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The Arthur Wilson Memorial Lecture.[1]

THE WAY OF AN OBSTETRICIAN.

By BRUCE MAYES, M.V.O., F.R.C.S., F.R.A.C.S., F.R.C.O.G.,
Professor of Obstetrics, University of Sydney.

IN one of his delightful essays Walter Murdoch tells of an old man in Tibet who lived in a monastery and was a very wise old man. He believed that the only way to look at the world was through the eyes of the unborn.

I have often thought how appropriate the old man's idea was to obstetrics. Being too gentle and immature, the unborn citizen is unable to declare his right to the pre-natal care and skill in delivery which mean so much to his future. Like his mother, he can only trust (and sometimes fear).

That was the way of Arthur Wilson, obstetrician. The trust was well placed, particularly when it came to the most common serious hurdle mother and baby have to surmount—the toxæmias—because Arthur Wilson was a generation ahead of his time in his alertness to the need, not to treat, but to prevent its most fatal form, eclampsia.

[1] Delivered on August 5, 1955, at Melbourne, under the auspices of the Arthur Wilson Memorial Foundation.

It was a subject dear to Arthur Wilson's heart, and I thought it, therefore, a fitting foundation on which to erect this evening's memorial.

The Prevention of Eclampsia.

Imitation never leads to true greatness, and Arthur Wilson was a great man. Indeed he was years ahead of his time. While most people were talking of the treatment of eclampsia, he was talking of its prevention. He had an echo far beyond the borders of his own State of Victoria.

In Brisbane one summer afternoon in 1941 I was sitting on the lawn with Hugh McLelland, another great obstetrician, a soul-mate of Arthur Wilson's; he also died too early, in 1953.

I had been asked to write some bulletins on obstetrics for the war-time graduates in the services, and I said to Hugh, "I think I'll make the next one deal with the treatment of eclampsia. I think it's necessary!"

"Is it?", he replied laconically.

"Surely", I said.

"I doubt it", he replied. "I've never had a case of eclampsia in my practice. With good pre-natal care I think the chapter on eclampsia could disappear."

Ten years later (in 1951) what had been accomplished in a large private practice was repeated in a large public practice at the Women's Hospital, Crown Street, Sydney. In over 6000 booked cases in this year there was not a

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single case of eclampsia. At King George V Memorial Hospital for Mothers and Babies, Sydney, an almost similar victory had been won.

You would like me to recall, I am sure, that Arthur Wilson thirty years earlier reported that no patient receiving pre-natal care at the Women's Hospital, Melbourne, had had convulsions. It is so difficult today to be original.

At about the same time (1920) Aleck Bourne made this prophetic statement:

> Some cases of toxæmia will die whatever is done for them. But it is in the pregnancy toxæmias that preventive medicine has one of its greatest opportunities.
>
> Eclampsia is almost an entirely preventible disease for its premonitory signs are plain to anyone who will take the trouble to look for them.

Truly Arthur Wilson, Hugh McLelland and Aleck Bourne were a generation before their time, before the Sydney campaign.

Sad it is that two of these three prophets have not lived to hasten the day when this prophecy shall be fulfilled. It is on the way.

The interesting but happy position exists today that the only way in which I can show the students a case of eclampsia is by an old movie film of DeLee's.

But wait, before you conclude that this is the conceited boast of one of these Sydney obstetricians. The rest of the story is not so good.

During the anti-eclampsia campaign in 1951, when not a single case of eclampsia occurred in the Crown Street Women's Hospital, 17 mothers died from eclampsia in New South Wales. How many had eclampsia, I do not know; nobody knows, but I will return to that point later.

The grim point for the moment is that with us eclampsia is the chief cause of maternal death.

Arthur Wilson stated that once a woman had taken a fit she moved from the column of preeclampsia with a mortality of 2% to another column—eclampsia, with a mortality of 15% to 20%.

The logic of it, therefore, is that death can be avoided by preventing a fit. The tragedy of it is that the vast majority of deaths can be avoided.

Now, when I say that, please do not misunderstand me. I am proud indeed of our profession. Most of the obstetrics in this country is done by the general practitioner and done well. An obstacle is the patient. In Sydney on occasion even the constabulary had to be called in to encourage a woman to keep her appointment. This is human. The hardest job in the world is to get people to save their own lives. Look at road accidents—like eclampsia, mostly preventible—and at the massacre of war—twice in a generation. I sometimes imagine those people on another planet looking at ours, as it whirls through space, shaking their heads and saying: "There goes a blood-stained star."

But let us leave man to his end and return to his beginning, childbirth.

Let us agree then that we must prevent eclampsia. Toxæmia will be with us for some time, I fear, but eclampsia, I believe, could disappear.

There is nothing original in this remark. Arthur Wilson a year before his death said, "We cannot prevent a patient from contracting a toxæmia but we should be able to prevent eclampsia in almost every case."

Well, how? It means a change of concept—a matter of treatment, not of eclampsia, but of preeclampsia.

I would not risk giving offence by describing what you know as well as I do, and probably better. But I would ask your indulgence in a brief reference to a few elementary points.

What is our problem? Mostly it is the *primigravida* with preeclampsia. Next in order of frequency is the woman with chronic hypertension. Chronic nephritis in the pregnant woman in Australia, I suggest, is rare.

And so from a practical point of view it will be a problem of (i) preeclampsia, (ii) chronic hypertension and (iii) a combination of these two, chronic hypertension complicated in the later months by preeclampsia.

The prevention of eclampsia is the early detection of preeclampsia.

The first red lamp of warning is the weight. The text I give my students is "Weight is Water". I would like to believe that, as an examiner, one does help to get a student over his final hurdle; but if we continue the steeplechase analogy, it is the Beecher's Brook for any candidate who in answer to my question, "What does excessive weight increase in a pregnant woman mean to you?", answers "Fat". We have a few months more together unlearning that error.

I think it is such a pity not to weigh your patient. I have never found any difficulty in interesting a woman in her weight, and it is such a useful link in the chain of cooperation. It has been my experience that in centres where the weight is not measured, the rate of eclampsia rises. An increase of more than one pound per week means water—means œdema.

Œdema is, I believe, a vitally important element because (i) it is insidious in its onset and (ii) it interferes with function.

First, it is insidious in its onset. That is because by the time it is clinically detectable it is gross in degree. The body can accommodate a good deal of fluid in its tissues before it is clinically detectable.

Because our clinical tests for œdema are crude—the tight wedding ring, "pitting" over the tibia, the puffy face—they are not early signs, but signs of well-established œdema and, moreover, generalized œdema. Indeed, it would not really matter, apart from the unkind disfigurement of the woman, if it were purely external; but it is internal, and in one organ at least that is basic in the pathology of the disease—the kidney.

Second, it interferes with function. Elementary again, but a swollen finger cannot bend, cannot work; neither can a swollen kidney.

Inside a tight inelastic fibrous capsule delicate renal tissue is strangled by ischæmia; and when you add to that the spasm of the afferent arterioles to the glomeruli which occurs with the development of hypertension, the grip on function is tightened, and you have a very "sick" kidney.

But the pity of it is that a "sick" kidney does not complain until it is very "sick", and the tears of broken capillaries are shed in the form of albumin.

Renal efficiency tests will not help us; I almost lie awake with a weight on my conscience when I think of the time, energy and expense in which I have involved the biochemist over many years doing urea concentration and clearance tests. Please forgive me if I speak heresy, but I do not think that these tests are of any value whatever in pregnancy.

The blood urea content may be estimated occasionally in the severe case, when clinically you hardly need it. I still have it estimated, but simple tests like determination of the specific gravity of the urine and the most obvious functional test of the kidney, measurement of the volume of urine passed, will give us just as much information.

Let us attack the œdema, but attack it early; the weight is the signal for attack.

The diuretic drug "Diamox" we have given a trial on a small number of patients with toxæmia of pregnancy in King George V Hospital.

Our still premature impressions are as follows:

1. In all patients the administration of the drug caused a considerable increase in the sodium excretion in the urine, the average being a fourfold rise in the daily output.

2. In all patients but one the total urinary volume rose correspondingly. In the case in which it did not rise, the

patient already had a urinary output of 3000 cubic centimetres the day before "Diamox" was given.

3. Despite the sodium and water diuresis, only one of the five patients lost weight significantly over the course. This suggests that "Diamox" effects a change in the sodium content of the extracellular fluids rather than a total loss of extracellular fluid.

4. There was no significant effect on the patient's blood pressure.

5. There was no constant effect on the patient's excretion of protein, though there appeared to be a tendency in some cases for this to rise.

6. It is too early as yet to assess whether the drug is of any value in the treatment of preeclamptic toxæmia, but it is worth a trial in the attack on œdema.

I should like to say a few words on two aspects of the blood pressure: (i) What is a rise of blood pressure? (ii) The relativity of the blood pressure.

I am sure that, if we are to prevent eclampsia, we must take the view that the upper limits of normal blood pressure in a pregnant woman are 120 millimetres of mercury, systolic, and 80 millimetres, diastolic.

If I say that to my physician friends, they either flatly reject the idea or, if more courteously conditioned, shrug their shoulders as much as to say, "Well, if you want it that way . . .".

One Englishman was extremely polite: "It's interesting to hear you say that", he answered. What he really meant was: "I don't believe a word of it."

Now is it unreasonable? I suggest that we reach agreement in the traditional manner of a compromise. I suggest that we have two standards, one for the pregnant woman and another for the rest of the population—the non-pregnant and the men. After all, the pregnant woman is entitled to a standard of her own. Firstly, she is a woman; secondly, she is a woman in a particular age group; and thirdly, she is a pregnant woman.

Unless we do this, it seems to me, we are going to be in difficulty. I will tell you why.

Sir Charles Blackburn, our University of Sydney Chancellor and most eminent of physicians, has more than once helped me in obstetrics. A few years ago he wrote me about a patient whose history he felt would be interesting to me. It has proved on many occasions both interesting and instructive to my students.

It was the story of a woman of fifty-eight years who had consulted him for a "check-up". Thirty years previously she had had eclampsia with her first pregnancy and had lost the baby. The doctor had told her she should not have any more children. "So far", said Sir Charles, "did she depart from the doctor's advice that she immediately proceeded to have five more!"

The two interesting features, Sir Charles pointed out, were, firstly, that she had had no recurrence of the toxæmia—a consolatory fact which we find most useful to give to the *primipara* who has just overcome a troublesome toxæmic pregnancy.

"Secondly", said this physician of more than half a century's experience as a doctor, "she is really very well now with a moderate degree of blood pressure."

Now I have always wanted to know what a moderate degree of blood pressure was. I could not read the next line quickly enough. There it was: "170/100."

But remember that was in a non-pregnant woman. The same blood pressure reading in a pregnant woman would be a high one and require hospital treatment.

By regarding 120 millimetres of mercury, systolic, and 80 millimetres, diastolic, as the upper limits we will regard a woman as toxæmic at an early stage, and that is the way of an obstetrician to prevent eclampsia and the way to get a woman to viability of her baby (thirty-six weeks)—to what I call V-day (viability day).

The idea of the relative blood pressure is next to be considered. A year before Arthur Wilson died he said (M. J. AUSTRALIA, January 5, 1946):

> If the blood pressure rises 10 millimetres or more, or if there is a sudden increase in weight, the patient is placed under close observation.

Mark his words. He did not say "if the blood pressure rises to 140 or 150 millimetres", but "if it rises 10 millimetres". That is the correct concept.

Dixon Hughes has demonstrated it nicely by his diagrams.

In one diagram, Mrs. A. has gone from 120 to 140 millimetres of mercury (a rise of 20 millimetres), Mrs. B. only from 120 to 130 millimetres (a rise of 10 millimetres). They both started off from the same level, and Mrs. A. is worse than Mrs. B.

But in the second diagram Mrs. B. starts from a level of 105 millimetres of mercury. By rising to 130 millimetres she has risen 25 millimetres, whereas Mrs. A., starting from 130 millimetres, has risen by only 10 millimetres to reach 140 millimetres. Although higher absolutely, Mrs. A. has not deteriorated, toxæmically speaking, nearly as much as Mrs. B.

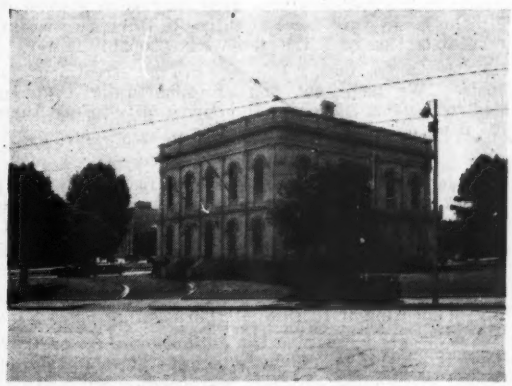

FIGURE I.

The College House, Melbourne, Royal College of Obstetricians and Gynæcologists, Australian Branch. It is also the memorial to the late Arthur Wilson.

It is an important concept in other fields. I always counsel my students to regard the fœtal heart in labour in relation to what it has been during pregnancy. If this is done, one can occasionally be saved anxiety by a slow fœtal heart during labour. It may even save an occasional Cæsarean section for fœtal distress.

And have you not often found that a normal pregnant woman's blood pressure is well below 120 millimetres of mercury?

Protoveratrine.

It was not my intention to go into details of treatment, but you might permit me to say what we have found in the use so far of the hypotensive drug protoveratrine.

P.V.P. tablets consist of protoveratrine A with polyvinyl acetate. The initial dose of P.V.P. that we have used has been 0·15 milligramme every six hours. This has been increased daily until a drop in the pressure or side effects (tingling of the lips, tongue and fingers, retrosternal pain, nausea and vomiting) appear. We have not so far gone beyond 0·6 milligramme six-hourly, but the effective dose is probably much higher. The incidence of side effects has been low, and the trial is proceeding with higher doses.

With injection of P.V.S. (protoveratrine A and B sulphate) results appear to be certain. The patients to whom this preparation has been given so far have been limited to the following four types:

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1. Patients with very severe preeclampsia, when eclampsia or cerebral hæmorrhage is feared. The initial dosage has been 0·1 milligramme of P.V.S. diluted in 10 millilitres of 10% glucose in distilled water given intravenously, at least five minutes being taken for the injection, with a check on the blood pressure every thirty seconds. A second ampoule of 0·1 milligramme similarly diluted may be necessary. We have not had to go beyond 0·2 milligramme for the initial dose as yet. As soon as the blood pressure starts to fall, the injection is discontinued, as the blood pressure will continue to fall for several minutes. The fall in blood pressure will usually last for thirty to sixty minutes; and when the blood pressure commences to rise again, 0·2 to 0·3 milligramme is given undiluted intramuscularly. The intramuscular injections are then repeated every two, three or four hours as necessary.

2. Patients with rapidly progressive toxæmia during labour. The progress of the disease may be halted for a sufficient time for vaginal delivery to take place. The regime is the same as that already outlined.

3. Patients whose blood pressure rises suddenly after delivery. The same plan is used.

4. Patients with severe toxæmia before the fœtus has reached V-day (practical viability). Intravenous and intramuscular administration of the drug may gain a week or two. In the less severe cases at thirty to thirty-two weeks, oral administration of P.V.P. tablets is probably better.

P.V.S. we have not yet used in the treatment of eclampsia. We have not had an opportunity. (I am indebted to Sandoz, Basle, for the opportunity to test these hopeful drugs.)

Albuminuria.

Let me say a word or two with regard to albuminuria, a sign which gave a mistaken name for many years to the disease of toxæmia.

I would refer to two aspects, one elementary, the other very difficult.

The first is the catheter specimen, so elementary that I hesitate to mention it to this Southern gathering.

For many years I regarded contamination of an ordinary specimen as capable of accounting, at the most, for a trace or a cloud of albumin (by the heat coagulation test). I was obliged to modify my view recently by an experience which I should like to pass on to you. I was doing my rounds of the pre-natal ward. Sister said to me, "Would you like to see a couple of interesting specimens?". "Surely", I replied. This is what she showed me. The first specimen was collected in the ordinary way, the second by catheter after the bladder had been half-emptied; in the first specimen the urine was almost "solid" with albumin in the second was only a very faint cloud.

The difference, you will agree, is considerable. The moral is that, in any case of frequent or persistent albuminuria, a catheter specimen on at least one occasion is an essential if we are to get the truth. It may save doctor and patient unnecessary worry and the hospital badly needed beds.

The second aspect is that of persistent albuminuria in the absence of a rise of blood pressure and œdema. This can be one of the most perplexing problems in obstetrics.

Chronic nephritis springs to our mind with early priority on the diagnostic barometer; it usually is not the correct diagnosis. Latent nephritis and healed nephritis are attractive terms which satisfy the desire for a label. Orthostatic albuminuria, the Kimmelstiel-Wilson syndrome and Ellis type II nephritis make the differential diagnosis more complete.

As practical obstetricians, the question that you and I have to answer early in pregnancy is "Can this woman be allowed to have a baby?". From my own experience I would say, "Yes, at least let her have a trial". I have never been able to say to a woman, "You should not have a baby".

I recall such a case two years ago, in which the albumin content of the urine was a "trace" only, from eight weeks onwards. The woman was young (twenty-two years of age), and albuminuria was the only finding. If my conclusion of nephritis at eight weeks was correct (based on the merest trace of albumin), then the outlook was bad. The results of other investigations were "stonily" negative.

She had nephritis, yes, but she felt and looked so well that I could not contemplate any course other than that she continue with the pregnancy, albumin or no albumin. This she was anxious to do.

Trouble lay in wait for us. Although she was rested in hospital from early days, without any increase in albumin for twenty-eight weeks, deterioration thereafter came rapidly, and by thirty-two weeks she had "solid albumin" in the urine, her blood urea content rose, and her renal function fell. Induction failed, and I performed a Cæsarean section. The baby lived (*mirabile dictu!*), and so did the mother. The albumin in her urine today is still copious; and although in spirit she is a joy to behold with her bonny baby, she is far from well, and I fear that the child may not have for long the care and guidance of her mother. I hope I am wrong.

But there is another example of persistent albuminuria in which the diagnosis of nephritis early in the pregnancy seemed reasonable with a very different ending.

The patient was a *primipara* of thirty-two years. Her urine contained a heavy cloud of albumin at eight weeks, and this persisted with slight variations throughout the pregnancy. She had no other sign whatever of toxæmia. She was in hospital for prolonged periods during her pregnacy and was subjected to the most intense investigation that you could imagine. She was "presented" to a meeting of the very best physicians in the city, and still the source of this albuminuria remained obscure. The most attractive diagnosis was that of "healed nephritis". She had her baby at thirty-eight weeks, and subsequently for the past three years she has shown no deterioration.

The difficulty is, how are you going to detect, in early pregnancy, the case of albuminuria in which the patient's condition will deteriorate and the one in which it will not?

Some say that it is easy to be wise after the event. In albuminuria I find it difficult to be wise at any time. So I would give them a trial; we have a "trial of labour", now a "trial of forceps"; I would suggest a new term for use in these cases: "a trial of pregnancy".

Albuminuria is a very old story.

Over a hundred years ago John Lever published a paper in *Guy's Hospital Reports* on some cases of puerperal convulsions. He observed that one woman with convulsions had albumin in her urine. It was thought that she had some incidental disease of the kidneys which was responsible for the albumin. Then the albumin disappeared. This suggested to Lever that the cause was connected with her recent pregnancy. To settle the point he examined the urine in every case of puerperal convulsions in private practice and at Guy's Hospital, where he was now the lecturer in midwifery. In every case at the time of convulsions he found the urine loaded with albumin.

A less thoughtful practitioner might have stopped at that point. Not so Lever. He took catheter specimens of urine—catheter specimens, mark, a hundred years ago—from fifty women in labour, and they were all normal. A few years later a French pathologist, Alexandré Pilliet, observed that the hæmorrhages and necrosis in the livers of eclamptic women were not due to chloroform which had been given to them in labour, but were characteristic of fatal cases of eclampsia.

Lever's observation is a lesson that is as fresh today as it was a hundred years ago. It demonstrates the research value of clinical observation that daily presents itself to you and me as practising doctors.

Just twelve months ago I was talking to the late Sir Alexander Fleming in his laboratory at Saint Mary's Hospital, London. He was a modest, homely gentleman, who denied any claim to the honours for brilliance in research which the world in its gratitude had showered on him.

The London *Times*, in an obituary, described his discovery in these words:

It was a long chance that a spore of a particular mould would float into St. Mary's Laboratory and settle on a culture plate.

When laden with honours towards the end of his life he used to emphasize this element of chance at the expense of his own contribution.

But, as Pasteur truly noted, in the field of observation chance favours only the mind that is prepared.

Last September I had the privilege of meeting in Belfast a stimulating young professor of medicine, Professor Bull, for whose help in anuria we are grateful. I had made the remark to him that where a clinical professor was predominantly clinical, he should have an associate professor to take care of the research side. He would not agree, and affirmed with conviction that research was simply a matter of recording accurate observation.

I think that he is probably right. It is proved by the observation of Lever and Fleming, or, if we come home, of Norman Gregg in relation to rubella.

Toxæmia is still a wide open field for research. Since Lever's paper was published one hundred years ago there have been fewer significant advances than on almost any other problem. Pathology, classification and treatment remain in doubt.

There is no true prophylaxis (that is, prophylaxis based on a knowledge of the cause), and the only definitive treatment is still termination of pregnancy; and even if it be mostly after V-day, it is the obstetrician's confession of defeat in the face of an inveterate enemy.

Who knows what epoch-making observation awaits the practising doctor? But remember that "in the field of observation, chance favours the mind prepared"—an admonition for a teacher with minds to prepare.

Notification of Eclampsia.

Another weapon against the eclamptic enemy, about which Arthur Wilson used to speak to me enthusiastically, is the making of eclampsia a notifiable disease.

This is a crusade of which I have also been an ardent supporter. Arthur Wilson's advocacy lends valuable help because he was not a professor. Professors, I am told, are suspect, but I would ask you to be generous and believe that I do not recommend a new form of notification as a cloud-cowled professor living in the attic of an ivory castle. Like you, I am happy to know that I carry the responsibility for the intimate management of these patients in private as well as public practice; and there is no room for theorizing at the bedside. Moreover, I did not graduate to a chair of obstetrics through any academic hot-house, but came from the ranks of the general practitioners, and I am always thankful for that experience. (Proud indeed am I to be able to tell you that I have just recently been admitted to the new College of General Practitioners.) Notification of eclampsia is therefore not a professorial whim.

Eclampsia in New Zealand.

In New Zealand, eclampsia has been a notifiable disease for 30 years. The reports of cases are strictly confidential and used solely for scientific research. Knowing this, medical practitioners give almost 100 per cent co-operation.

These are the words of Dr. Tom Corkill, of Wellington. I have had regular contact for some years with this "father" of obstetrics in New Zealand.

Tom Corkill is the one mostly responsible for the administration of the notification scheme. In a very recent personal communication he has permitted me to give you the New Zealand figures and his comments on the prevention of eclampsia since 1925.

He writes:

It can be fairly claimed that we have as accurate a knowledge of the eclampsia position in New Zealand over 30 years as is available for any country in the world.

The striking comparison in Table I gives some indication of the progress that has been made.

Incidence.—The incidence of eclampsia has been reduced from 3·2 per 1000 births in 1928-1933 to 1·43 per 1000 in 1952-1954.

Maternal Deaths.—The maternal deaths from eclampsia have been reduced from 0·6 per 1000 births to 0·04 per 1000—a fifteen-fold improvement and truly an outstanding achievement.

Infant Mortality.—Stillbirths and neonatal deaths have fallen in incidence from 42% to 17·7%, and this, of course, in a greatly reduced number of cases.

A study of the records for the last three years (1952-1954) reveals other interesting and encouraging trends.

TABLE I.
Eclampsia in New Zealand.

Period.	Total Births.	Cases of Eclampsia.	Maternal Deaths.	Maternal Mortality.	Infant Mortality.
1928–1933	157,264	491 (3·2 per 1000)	93 (0·6 per 1000)	18·9%	42% (approximately)
1952–1954	159,974	230 (1·43 per 1000)	7 (0·04 per 1000)	3·04%	17·7%

Very Mild Cases.—If we take as the criterion of a very mild case three fits or less and survival of both mother and infant, there has been a steady increase in the percentage of such cases over the years. Indeed, over the past three years 64% of the cases of eclampsia have been of this very mild type.

Time of Occurrence.—An increasing proportion of the patients who develop eclampsia now do so in the post-partum period or in the late second stage. This "shift to the right" is regarded as another most significant indication of improved pre-natal care, for the majority of these late-occurring cases are extremely mild in type, and the treatment of the patients in the eclamptic state itself presents no serious problem. Most of these cases in fact have just fallen short of complete success in eclampsia prevention. Post-partum eclampsia is obviously better for both mother and infant.

Tom Corkill continues:

These are just statements of the facts. It is not necessary for me to discuss with you who hold the same views, how this improvement has been brought about. All the facts indicate that it was essentially due to an ante-natal coverage which had few weak spots and in which all those engaged in maternity practice have co-operated with genuine interest and conviction. Since the maternity service is based on almost universal doctor attendance, much of the credit must go to the general practitioner-obstetrician who has completely justified the trust that was placed in him to give efficient ante-natal care.

Comparison of the New Zealand Picture with that in Australia.

When we try to compare the picture with that of our own country, it is not rosy. In fact, comparison is impossible. Here is the most I can give you.

In the best year ever for all concerned (1953) the position for New Zealand, New South Wales and Victoria was as shown in Table II.

It is twice as good for a mother to have her baby in Victoria as in New South Wales, but still better for her to have it in New Zealand. The unborn, if they could speak, would probably agree that the same applies to them.

All we know are the deaths. How many actual cases of eclampsia occurred in New South Wales and Victoria, I do not know; but if we could take the New Zealand rate as a guide, the number west of the Tasman would have been not inconsiderable.

Comparisons, I realize, are dangerous in discussing a disease like eclampsia, in which geographical conditions

alone have to be considered in maternal and infant mortality between New Zealand and Australia and even between New South Wales and Victoria.

But even if we allow for geographical and other variants, I submit that notification of eclampsia must be the greatest single factor in the contrast between the figures of the two countries.

I have for some years pleaded for the notification of this disease. I shall continue to do so because to know the facts in a problem is basic, fundamental.

Moreover, it would be a practical acknowledgement of the debt we owe a great and practical man whom we are honouring tonight, Arthur M. Wilson. It was his wish. It would hasten the day when the chapter of eclampsia could disappear.

Table II.

Eclamptic Cases and Deaths in New Zealand, New South Wales and Victoria in 1953.

Place.	Total Births.	Cases of Eclampsia.	Maternal Deaths.	Infant Deaths.
New Zealand ..	52,953	81	2 (0·03 per 1000 births)	15
New South Wales	74,890	Unknown.	12 (0·16 per 1000 births)	Unknown.
Victoria	53,561	Unknown.	4 (0·07 per 1000 births)	Unknown.

Conclusion.

It is a signal honour that you have done me tonight. To subscribe a few words to the perpetuation of Arthur Wilson's memory is an honour that, I say with the utmost sincerity, I hardly dared hope for. It is an honour I accepted with humility because of my inadequacy to do it justice.

For Arthur Wilson was to me an ideal, a combination of all the qualities that make for greatness. I was privileged to know him only over the last decade of his life—as a senior citizen. But Boyd Graham has described him to me in his earlier days—as a schoolboy and a student:

"Unpretentious and friendly", said Boyd Graham. "It was easy to make him an object of hero-worship. He batted well as a cricketer and was a nippy footballer with speed and courage."

That last word of Boyd Graham's, "courage", is a happy choice, for it was characteristic of him right to the end of his life.

Winston Churchill, himself the embodiment of courage, once said, "Courage is the first of human qualities because it is the quality which guarantees all others", and Arthur Wilson had those others.

Graduating in 1912 with some well known to you, he became a resident medical officer at the Melbourne Hospital and later at the Women's Hospital.

The war came and found Arthur Wilson where you and I would expect to find him. And for his service, to quote Boyd Graham, "he got full marks and the D.S.O.".

After the war he rapidly established himself in his specialty from the ranks of the general practitioner.

He forged his way before long to the top rank as a private practitioner-consultant and teacher. His influence on obstetrics extended far beyond his hospital and State; and when the voice we loved so much was stilled, he was, in my opinion, without peer in this country as an obstetrician and clinical teacher.

Bernard Shaw, rather cynically referring to teachers, remarked that "he who can, does it, and he who can't teaches". Arthur Wilson taught as a man who could, and did it. He made no appeal to misty authority; it was "what I have found or what I have seen".

Generous and well informed, he pointed the way to many a younger obstetrician, as only a master can who has trodden the way stone by stone to the summit of professional attainment—a king in medicine who never lost the common touch. There was about him no *"folie de grandeur"*.

When last year I was searching for the definition of an obstetrician, I consulted the dictionary with an unsatisfactory result. It said: "An obstetrician is one skilled in obstetrics and his function is to obstetricate." How ugly!

I asked mothers in hospitals. Their definition was that an obstetrician was "one who to a sound training adds the human touch, one who remembers that a mother's horizon is not one of test-tubes and instruments but of pink and blue ribbons".

The greatest men in history were great humans, and Arthur Wilson's name is bracketed with those of men like Smellie and Lister.

Smellie was human. He took an interest in his patient as a woman, not just in her pelvis. Yes, he was very human. He once cut the cord on the baby's side of the ligature. But, mind you, he was canny. He silenced the censorious midwife by saying that this was his way of preventing convulsions.

Lister was human. Like you and me, he found the pressure of daily work so constant that to write he had to rise early in the morning, and he would get a good start next morning with a cup of tea, for which he had previously set the night before.

And talking of a cup of tea, does that not ring true as a homely human characteristic of Arthur Wilson? Ivon Hayes in his beautiful obituary describes how "Arthur's information and interesting anecdote was available to all, but especially to those who knew of his love for a cup of tea, a cigarette and a chat after a case was finished; it was only then did he relax and steal a few minutes' leisure".

My last associations with Arthur Wilson I shall always treasure. They lay in the establishment in Australia of the Royal College of Obstetricians and Gynæcologists.

He was a Foundation Fellow and a member in 1947 of the first Provisional Regional Council.

The first meeting of the Council in Australia was in February, 1947, during the visit of Sir William Fletcher Shaw. Arthur Wilson was a major factor in the success of Fletcher Shaw's visit.

To our dear chairman tonight (Edward White) that visit was also memorable, as was his contribution to its success in Melbourne. I shall never forget his help, and it was pleasing to hear Sir William last year recall affectionately the support Edward White gave him in busy and unfortunately sad circumstances.

It was at that time that Arthur Wilson taught me the Lovsett technique for delivering the arms in a breech presentation. The lesson is a confession for me; and if you would not count it a mark against me but rather a tribute to Arthur Wilson, I should like to tell you how it came about. It was during the M.R.C.O.G. examination in 1947. With Fletcher Shaw, I was examining a Melbourne candidate, whom I see with a nostalgic pleasure in the audience tonight; he came to us in the "viva".

We gave him a doll and a phantom pelvis and asked him to show us how he would deliver it as a breech.

Sir William was worried at the way this candidate pulled on the breech in delivering the arms.

"Surely, Mayes, that's not right, is it?", he said. "We were never allowed to pull on the breech like that!"

"Unusual, I agree, but it seems effective", I replied.

At afternoon tea, Sir William asked Arthur Wilson whether that was the practice in Melbourne. The answer was that Arthur Wilson took us into the examination room and showed us the Lovsett technique.

"It's a real winner"—I can still hear Arthur Wilson saying it. With his help I introduced it to Sydney

obstetricians, and every word of his remark has been proved many a time since.

That was the way of a real teacher. There was no *"jalousie de métier"*. He spread his knowledge and experience freely and far beyond the borders of his home State. He did big things, but he did them quietly.

It was at that time, after an arduous war-time service to the community and his younger colleagues, that he had just rearranged his professional life by inviting two partners to share the enormous burden of his work.

But alas! Even as he was taking an active part on the stage in Sydney, sitting next to me at the conferring of the membership of the College on successful candidates whom he had just examined, the end of the way was near, unknown to him or his friends, invisible.

God in his mercy has made Death invisible. "We know he is there close on our heels like a shadow, never losing sight of us. Yet we never see Him, hardly ever think of Him. Strangest of all the further we advance towards our grave, the further does Death recede from our thoughts. Indeed it needed a God to perform such a miracle."

The end came on December 19, 1947. And as Horace hung his lute on the wall, its campaign over, so too did Arthur Wilson.

He had sung the summer in for many a mother.

And so tonight, within these hallowed walls of your own memorial, Arthur Wilson, obstetrician, teacher, soldier, citizen and friend, we salute you and honour your memory.

Acknowledgements.

I wish gratefully to express my indebtedness to the following: Dr. Edward R. White, Dr. Howard Boyd Graham, Sir Charles Bickerton Blackburn, Dr. William Ivon Hayes, Dr. Kevin Brennan, Dr. Rodney Shearman, Dr. Keith Macarthur Brown, Dr. T. F. Corkill, Dr. T. Dixon Hughes, The Editor and Deputy Editor of THE MEDICAL JOURNAL OF AUSTRALIA, Professor Walter Murdoch, the late Dr. Axel Munthe.

Post-Script.

It is pleasing to report that since this lecture went to press, the National Health and Medical Research Council at its meeting recently (November 25, 1955) has agreed to recommend that eclampsia be made a notifiable disease. I feel that this accomplishment is a fitting post-script to the Arthur Wilson Memorial Lecture.

CHEMOTHERAPY OF PULMONARY TUBERCULOSIS IN PATIENTS AT HOME AND AT WORK.

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THE treatment of pulmonary tuberculosis has been considerably modified by the use of prolonged chemotherapy (Campbell, 1954). One result is a growing tendency to shorten the period of bed rest and to utilize chemotherapy at home during some part of the treatment. Further, courses of chemotherapy have been carried out entirely as out-patient treatment.

Robins *et alii* (1954) reported the results obtained from the treatment with isonicotinic acid hydrazide (INAH) alone, of 110 patients suffering from chronic tuberculosis who were not in hospital. They concluded that their results (41 patients improved, 36 with condition unchanged, 11 worse, on X-ray assessment) were close to the minimum that can be expected of out-patient chemotherapy and would be improved by better patient selection, larger INAH dosage and combined drug therapy.

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Joiner *et alii* (1954), with out-patients suffering from chronic tuberculosis whose sputum contained tubercle bacilli, found that the results with INAH and paraaminosalicylate (PAS) were not impressive, but were improved by rotating pairs of INAH, PAS and streptomycin. Clarke (1952) treated 24 patients with persistently positive sputum but no detectable cavitation, while they continued allotted activities in the Papworth community. After three months of streptomycin and PAS therapy the sputum of 23 became "negative"; 14 of these continued to have "negative" sputum, while five showed an isolated positive finding and four reverted to persistently "positive" sputum.

Following this work we have investigated the value of domiciliary chemotherapy administered to a series of 75 fully ambulant or semi-ambulant patients, some of whom continued their occupations. Patients treated at home, away from the supervision of hospital staff, almost invariably spend more time out of bed than they would do in hospital. During this investigation strict bed rest was not advised, and most of the patients spent at least six hours out of bed daily. Those remaining at work were asked to rest during the evenings, but were otherwise unrestricted.

Clinical Material and Patient Selection.

The patients were all males attending the chest clinic. The patients selected for domiciliary treatment had received previous treatment for tuberculosis and now required further treatment for either continued activity or relapse of the disease. Newly diagnosed cases were excluded owing to the presumed advantages of initial hospital treatment. The patients fell into the following categories: (i) Patients in whom cavities were small or absent, with spread of disease which was either not extensive or occurring slowly. (Although hospital treatment was discussed with these patients, it was not pressed if objections were raised and home conditions were reasonably satisfactory.) (ii) Patients who had chronic disease which had remained active in spite of previous hospital treatment. (iii) A small group of patients not in the first two categories who refused to enter hospital.

The decision that the patient should continue to work was made when symptoms were minimal or absent, and when spread had been slight and cavitation was either not obvious or small. A few patients not in this category were allowed to continue work at their own risk.

Major Features of the Patients Treated.

In all, 75 patients commenced treatment. Forty of them were aged under fifty years, whereas 35 were aged over fifty years. All were judged to have active disease on the basis of radiological deterioration, cavitation, or positive bacteriological findings. Acid-fast bacilli were recovered from 54 immediately prior to the commencement of chemotherapy, and 40 were judged to have cavitation.

Type of Disease.

Each case was classified radiologically according to the type of disease predominantly present, irrespective of cavitation. The following criteria were used: (*a*) "Fibrosis": minor retraction with hilar elevation and linear markings—32 cases. (*b*) "Major atelectasis": obvious contraction of the whole or part of a lung—15 cases. (*c*) "Nodular disease": rounded lesions at least one centimetre in diameter—seven cases. (*d*) "Mottling": groups of rounded lesions, not necessarily well defined, 0·5 to 1·0 centimetre in diameter—five cases. (*e*) "Fine spotty disease": small multiple opacities less than 0·5 centimetre in diameter—seven cases. (*f*) "Pneumonitis": irregularly shaped opacities, not necessarily well defined—nine cases.

Extent and Chronicity.

One pulmonary zone was involved in 18 patients, two zones were involved in 21, and three or more zones were involved in 36. All the patients had suffered from tuberculosis for some years and had various forms of treatment, 41 having had previous chemotherapy of short duration.

Treatment.

All the patients received a combination of chemotherapeutic agents. In the majority this consisted of INAH and PAS, but some had a combination of streptomycin and PAS, and a few INAH and streptomycin. A few patients received INAH alone for a short initial period. The dosage of INAH used was 100 milligrammes three times a day, and PAS was given as tablets of the sodium salt in four daily doses of four or three grammes. Streptomycin was injected in one-gramme doses, three times weekly.

Unless complications developed, supervision was provided by visits to the chest clinic every two or three months. When required, streptomycin was administered by cooperating general practitioners.

Method of Assessing Results.

The results were assessed at the first visit after the completion of six months' treatment, the period varying between six and eight months. Although chemotherapy was continued for much longer, a period of six to eight months was a convenient time to assess the initial results, as later improvement was slow. Rather stringent criteria had to be met before a case was classified as satisfactory. For this, a patient had to show not only improvement, but also the closure of any cavities and "negative" sputum or "negative" laryngeal swab findings, and must not have had the home treatment interrupted by admission to hospital for any reason.

If these criteria were not met, the case was classified as a failure. Tomograms were taken when there was doubt concerning the presence of cavitation.

Regularity of Administration of Therapy.

There were no reliable means of deciding whether each patient took his prescribed drugs regularly. In the case of two alcoholics there was evidence of gross underadministration. Owing to a misunderstanding another patient took only three grammes of PAS daily for several months. Other patients were known to miss an occasional dose, and some suspended the drugs for several days when they developed severe abdominal discomfort.

The remaining patients were cooperative and it was believed that they took their drugs regularly.

Complications and Toxic Effects.

No serious complications occurred. Abdominal discomfort due to PAS was not uncommon and was recorded in 21 cases. This led to the substitution of another drug in place of PAS in two cases, and in a third treatment at home was abandoned. The other 18 patients were able to tolerate a reduced dosage of PAS of at least 10 grammes per day.

Skin eruptions occurred in several patients, but were controlled by reducing the dosage of PAS. No complications were attributed to INAH.

Results.

Of the 75 cases, 38 were classified as satisfactory after six to eight months' treatment. Of the unsatisfactory cases, three failed for reasons unassociated with the progress of the disease—two because of alcoholism and one owing to intolerance of chemotherapy. These three failures have been excluded from an analysis of the effect of the type of disease on the results.

Of the remaining 72 patients, X-ray improvement occurred in 62; of the 52 whose sputum had contained tubercle bacilli, in 34 it became "negative"; and of 38 with cavitation, closure of all cavities occurred in 11. The reasons for classifying 33 of the cases as unsatisfactory may be set out as follows:

Persistent cavitation	28
Positive bacteriological findings	19
Spread of disease	5
Admission to hospital for hæmoptysis	1

In some patients more than one factor was present. Persistent cavitation, alone or in combination with other factors, was the major cause of an unsatisfactory result. Of the six failures without persistent cavitation, in three the bacteriological findings were positive, but the condition was otherwise satisfactory, two developed spread of the disease, and one was admitted to hospital after an hæmoptysis. Including three with persistent cavitation, five patients developed spread of the disease. All had received previous chemotherapy. Cultures of tubercle bacilli were obtained from three of the patients after the spread had occurred, and bacterial resistance to either or both of the drugs administered had developed in all three.

Cavitation.

In view of the frequency with which persistent cavitation caused an unsatisfactory result, it is not surprising that the initial presence of cavitation is important. It was found that cases in which initial cavitation was present were much more likely to be failures than those without cavitation. This applied whether or not chemotherapy had been administered previously (Table I).

TABLE I.
Effect of Cavitation on Result.

Cavitation.	Satisfactory.	Unsatisfactory.	Total.
All Patients.[1]			
Present	10	28	38
Absent	28	6	34
No Previous Chemotherapy.[2]			
Present	4	7	11
Absent	21	2	23

[1] $\chi^2 = 19{\cdot}9$; $n = 1{\cdot}0$; $P = <0{\cdot}01$ (statistically significant).

[2] $\chi^2 = 8{\cdot}8$; $n = 1{\cdot}0$; $P = <0{\cdot}01$ (statistically significant).

It was of interest that a successful result was possibly related to the size and chronicity of the cavity (Table II). However, the numbers are small and the differences are not statistically significant. A slightly greater proportion of cases in which large chronic cavities were present were retreatment cases, though the same trend is shown in those in which no previous chemotherapy had been given. Unfortunately it was impossible to separate the effects of size and chronicity of cavities, as the larger cavities were

TABLE II.
Effect of Size and Chronicity of Cavitation on Results.

Cavitation.	Satisfactory.	Unsatisfactory.	Total.
Size.[1]			
Less than 2·5 centimetres	8	11	19
More than 2·5 centimetres	2	17	19
Chronicity.[2]			
Present less than one year	5	5	10
Present more than one year	5	23	28

[1] $\chi^2 = 3{\cdot}25$; $n = 1{\cdot}0$; $P = <0{\cdot}10$ (not statistically significant).

[2] $\chi^2 = 2{\cdot}4$; $n = 1{\cdot}0$; $P = <0{\cdot}20$ (not statistically significant).

generally more chronic than the smaller cavities; but of the smaller cavities, the recent closed more frequently than the chronic ones.

Type of Disease.

An analysis has been made of the results obtained when the cases were classified according to the predominant type of disease (Table III).

The results vary according to the type of disease present. However, there is a corresponding variation in

the incidence of cavitation between the groups. This, rather than any effect due to the type of disease, is the likely explanation of the variations. There are two probable exceptions: firstly, of cases in which cavitation was present, the worst results were in those in which major atelectasis was present; secondly, although the numbers are small, a striking finding was that of the four patients with predominantly nodular disease without cavitation three made unsatisfactory progress.

TABLE III.
Relationship between Type of Disease and Results.

Predominant Disease.	Result.	Cavitation.		Total.
		Present.	Absent.	
Fibrosis and retraction	Satisfactory.	2	17	19
	Unsatisfactory.	11	1	12
Major atelectasis ..	Satisfactory.	1	—	1
	Unsatisfactory.	12	1	13
Nodular disease (tuberculoma).	Satisfactory.	2	1	3
	Unsatisfactory.	1	3	4
Mottling	Satisfactory.	1	3	4
	Unsatisfactory.	1	—	1
Fine spotty disease	Satisfactory.	1	5	6
	Unsatisfactory.	—	1	1
Patchy pneumonitis	Satisfactory.	3	2	5
	Unsatisfactory.	3	—	3

Type of Spread Prior to Chemotherapy.

When spread of the disease had occurred prior to the commencement of chemotherapy, this was classified according to the definitions already given. The commonest type of spread was an irregular opacity classified as "pneumonitis". This was present in 34 cases, and a satisfactory result occurred in 24. The length of time before treatment during which the spread had been present had no apparent effect on the results. This type of spread occurred in 14 cases in which the predominant type of disease present was "fibrosis" without cavitation, and the result was satisfactory in all.

Cases of other types of spread were insufficient in numbers to be adequately analysed.

Extent of Disease.

The extent of the tuberculous involvement of the lungs appeared to influence the results, as patients with involvement of either one or two zones did considerably better than those with three or more zones involved (Table IV).

TABLE IV.
Relationship between Extent of Disease and Results.

Extent of Disease.	Satisfactory.	Unsatisfactory.	Total.
One zone	12	6	18
Two zones	16	5	21
Three or more zones ..	10	24	34

However, cavitation was present more frequently in patients with three or more zones involved. This appears to be the causative factor, as extent of the disease had no influence on the results in cases in which cavitation was absent (Table V).

Age.

Patients aged more than fifty years contributed a much greater proportion of failures than those aged under fifty years. However, factors other than age could have produced this result, as more of the older group had cavitation and had had previous chemotherapy.

Previous Chemotherapy.

Patients who had not previously received chemotherapy did better than those who had had previous drug treatment (Table VI). This may have been partly due to there being a greater proportion with cavitation among those who had had previous chemotherapy. However, when the cases in which cavitation was absent are analysed separately, the previous chemotherapy group again show substantially worse results (Table VII). The difference is not statistically significant, as the numbers are small.

Sensitivity tests prior to the commencement of treatment were not carried out sufficiently frequently to make it possible to determine whether previous chemotherapy had produced bacterial resistance. Nine patients who had received previous chemotherapy were tested prior to the commencement of therapy, and some degree of resistance was detected in two.

TABLE V.
Relationship between Extent of Disease and Results in the Absence of Cavitation.

Extent of Disease.	Satisfactory.	Unsatisfactory.	Total.
One zone	8	2	10
Two zones	12	2	14
Three or more zones ..	8	2	10

Patients Treated at Work.

Nineteen patients received chemotherapy whilst continuing either part-time or full-time work. Fifteen were without cavitation, 16 were aged under fifty years, and only seven had received previous chemotherapy. None had major atelectasis and contraction. Eleven had tubercle bacilli in the sputum or in laryngeal swabs.

TABLE VI.
Effect of Previous Chemotherapy on Results.[1]

Previous Chemotherapy.	Satisfactory.	Unsatisfactory.	Total.
Given	13	25	38
Not given	25	9	34

[1] $\chi^2 = 9{\cdot}1$; $n = 1{\cdot}0$; $P = <0{\cdot}01$ (statistically significant).

No doubt owing to the selection of patients, the results were surprisingly good. Of the 19 cases, 14 were satisfactory and five unsatisfactory. Of the four patients with cavitation, the cavity closed in two; and sputum conversion occurred in nine of the eleven with "positive" sputum.

The type of patient who did best was one with a minor spread, without cavitation, but with predominantly "fibrotic" type of disease.

TABLE VII.
Effect of Previous Chemotherapy on Patients Without Cavitation.[1]

Previous Chemotherapy.	Satisfactory.	Unsatisfactory.	Total.
Given	7	5	12
Not given	21	2	23

[1] $\chi^2 = 3{\cdot}4$; $n = 1{\cdot}0$; $P = <0{\cdot}10$ (not statistically significant).

It is important to ascertain whether continuing at work contributed to failure in any case. Of the five failures, one was due solely to admission to hospital for alcoholism. Two of the failures came from the four patients with cavitation, and one had had cavitation for more than a year.

Of the two failures among the 14 patients without cavitation, in both the disease was nodular and previous chemotherapy had been given. One of these two patients, mistakenly, had been taking INAH with only three grammes of PAS daily. Culture of his gastric contents still gave

positive results at six months; but with further chemotherapy at correct dosage he had a satisfactory result without ceasing work. In the other case a new lesion continued to enlarge, and so the patient was admitted to hospital, where the disease became quiescent. This is the only case in which continuation of employment appeared to have an adverse effect.

Discussion.

Chemotherapy at home for patients with pulmonary tuberculosis was found to be quite a practical procedure, especially with INAH and PAS. One drawback was that some patients were likely to underdose themselves with the drugs. Some care was taken to select only cooperative patients and those who had reasonably good home conditions. Even so, two alcoholics were included and found to be quite unsuitable for domiciliary treatment.

Compared with hospital treatment, domiciliary treatment had the distinct advantage that the patients were happier, domestic hardship was often avoided, and in addition there were obvious economic advantages. In this particular study the patients were either semi-ambulant or fully ambulant, so that the results are as much a measure of the value of chemotherapy for ambulant patients with certain types of disease as of home treatment.

In this trial there were a large number of patients with chronic disease on the one hand, and quite a number with minor relapsing disease on the other. Because of the selection of the patients and the lack of a control group, no valid comparison can be made between the present results and those obtained with patients in hospital. However, valuable information can still be gained by analysing the types of cases that failed or succeeded when home treatment was employed.

Even if chemotherapy at home was undesirable as a general procedure, it would not be surprising to find it quite effective and adequate for certain patients. After all, it is known that a few patients recover from active tuberculosis without any form of treatment. The problem remains to select the patients for whom chemotherapy while they are semi-ambulatory is an adequate procedure.

Admittedly the present results are based on only six to eight months' treatment, and further follow-up investigation in the successful cases is desirable. The further treatment and follow-up examination of these patients are as yet incomplete, but there has been nothing to indicate the need to reverse any of the present conclusions.

The presence or absence of cavitation is an extremely important feature. In general, patients without obvious cavitation were usually treated successfully, whereas those with cavitation provided a large proportion of the failures.

Of the patients without cavitation, consistently good results were obtained in those with a relapse of minor extent associated with "fibrotic" disease. Failure was unusual in any type except those with predominantly nodular disease, including tuberculoma. However, even these patients came to no serious harm, and were likely to continue to improve if the treatment was continued for longer than six months, the ultimate result being more satisfactory than that obtained initially. It is difficult to know whether these patients would have made better progress in hospital than at home; but it seems likely that more bed rest would have been of value.

Continuing to work while chemotherapy is being given considerably extends the reliance upon the drugs and implies good resistance to the disease on the part of the patient. Except for those with nodular disease, patients with few symptoms and without extensive disease, who had developed new infiltration without detectable cavitation, were treated successfully while continuing their occupations. Clearing of infiltration was often spectacular. It appears that at least some patients with minor reactivations are suitably treated by chemotherapy while at work, and there is certainly good reason to explore this further. In two patients with cavitation the cavities closed while they were continuing work, and although no general conclusions could be drawn, this provided an interesting example of the efficacy of chemotherapy.

The results for all patients with cavitation were not impressive. Certain probable unfavourable features, such as chronicity, major atelectasis and previous chemotherapy, were present sufficiently frequently to influence the results unduly. However, although patients with small recent cavitation did better than those with large chronic cavities, the results do not justify a widespread employment of chemotherapy at home for patients with cavitation of any type. It is quite possible that further investigation of patients with small recent cavitation may provide evidence of the value of domiciliary chemotherapy in this type of case.

Patients with large chronic cavitation present a difficult therapeutic problem when operation is contraindicated. Patients of this type had received only temporary benefit from previous hospital treatment with or without chemotherapy.

It had been hoped that prolonged chemotherapy at home might be of considerable value for these patients. It is true that although cavity closure was infrequent, many patients were considerably improved. The sputum of some, but not many, became free of tubercle bacilli, and one or two may eventually show "open" healing of their cavities. The majority are much more likely to develop bacterial resistance and become a greater public health risk than they were previously.

For these patients with chronic cavitation it would perhaps be preferable to limit chemotherapy to short courses administered only when there has been definite radiological or clinical deterioration. In such cases, with the available antituberculosis drugs, it is doubtful whether prolonged chemotherapy at home provides lasting improvement.

It is difficult to deny that domiciliary treatment allows opportunities for spread of infection. However, this danger can be diminished, if not abolished, by proper instruction and proper selection of patients. Owing to the public health dangers, domiciliary treatment was seldom undertaken when children lived with the patient, and then only if the children had received BCG inoculation or were known to have a positive tuberculin reaction.

Home treatment was restricted to those who had received hygiene training during an earlier period in hospital.

Patients continuing to work are potentially a greater public health risk than those at home. However, in the group for which this type of management appeared to be adequate, the risk was probably small. These patients had little or no sputum, and those who had tubercle bacilli in laryngeal swab cultures soon became "negative" with treatment.

In view of increasing interest in the subject it is perhaps desirable to emphasize that the possible advantages of domiciliary chemotherapy for any particular patient have to be weighed seriously against the possible dangers incurred by a failure to insist upon segregation.

Summary.

1. A group of 75 patients with pulmonary tuberculosis received chemotherapy at home while either semi-ambulant or fully ambulant. The patients were selected for out-patient treatment because of either continued or renewed activity of the disease. No patients with newly diagnosed tuberculosis were included.

2. The results were assessed after six to eight months' treatment. For a satisfactory result out-patient treatment had to be continuous, and both closure of any cavities and negative bacteriological findings had to be attained.

3. Three cases were unsatisfactory for reasons unassociated with the progress of the disease. Of the remaining 72 cases, 38 were classified as successful.

4. Cavities, especially if large and chronic, were an unfavourable feature. Age and previous chemotherapy probably had some influence, but were less important than cavitation.

5. Patients without cavitation were usually successfully treated unless the disease consisted predominantly of rounded lesions more than one centimetre in diameter.

6. With the exception of those with this nodular disease, patients with a minor relapse without cavitation did well even while continuing their occupations.

7. The results were not sufficiently impressive to warrant widespread employment of chemotherapy for patients with cavitation. Those with chronic cavitation were seldom successfully treated, and the place of chemotherapy for these patients has been examined. The results in patients with recent cavitation were inconclusive, but warranted further investigation.

8. In conclusion, domiciliary chemotherapy of selected semi-ambulant or fully ambulant patients suffering a relapse of pulmonary tuberculosis without cavitation appears to have a place.

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FACIAL PAIN, WITH SPECIAL REFERENCE TO TRIGEMINAL NEURALGIA.[1]

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FACIAL PAIN is a common symptom in practice. To discuss the various forms of facial pain it is necessary to recall briefly the anatomy of the sensory nerve to the face—the fifth or trigeminal nerve. The trigeminal sensory root arises from the unipolar nerve cells in the Gasserian ganglion, which is situated in the middle fossa near the apex of the petrous temporal bone and just internal to the *foramen ovale*.

From the Gasserian ganglion emerges the peripheral distribution, as follows: the ophthalmic division passes forward into the cavernous sinus and then enters the orbit through the superior orbital fissure; the maxillary division (the second division) passes out from the skull through the *foramen rotundum*; the mandibular division (the third) passes out through the *foramen ovale*. The peripheral sensory distribution to the face is shown in Figure I. These branches supply sensation to the whole of the face, excluding the angle of the jaw, which is supplied by the cervical plexus. The overlap between the areas supplied by the three divisions of the fifth nerve is very slight. The dura is innervated by the meningeal branches from the fifth nerve, except for the dura of the infratentorial portion of the posterior fossa; headache from supratentorial tumours is referred in the distribution of the fifth nerve. The fifth nerve also supplies the cornea, the conjunctiva, the mucous membrane of the nose and part of the lips and buccal cavity, and also the maxillary and frontal sinuses.

[1] Based on a lecture delivered to the combined meeting of the Downs and South-Western Medical Association and the Dental Association at Toowoomba.

The fifth nerve nucleus extends centrally down to the level of the second cervical vertebræ.

The descending root subserves chiefly pain and temperature.

The ascending root subserves touch and position sense of the ear.

DIAGNOSIS OF FACIAL PAIN.

Trigeminal Tic or Tic Douloureux.

Trigeminal tic was probably known to Galen. It was described in the eleventh century by Avicenna, the Arab physician. Later in the history of the condition, Mareschal, who was surgeon to Louis XIV, practised cutting the affected peripheral nerve (Kinnear Wilson, 1955). The term "*tic douloureux*" was first employed by André in 1756; it describes the severe cases in which the facial musculature is drawn up in spasm. Though Schlosser in 1903 was the first to inject alcohol into the peripheral branches of the trigeminal nerve at their foramina of exit from the skull, it was Harris who in 1910 was the first to inject alcohol into the Gasserian ganglion. His first patient obtained complete relief of pain for the remaining twenty-seven years of his life.

Ætiology and Pathology.

Harris thinks that the pain is due to afferent impulses proceeding from the periphery to the centre, and that dental sepsis is a primary factor in the origin of the disease, resulting in minute lesions in the terminal branches of distribution of the trigeminal nerve.

Behrman and Knight consider there is some relationship between *herpes simplex* and trigeminal tic.

However, Lewey and Grant suggest that in many cases of idiopathic trigeminal tic the cause of the pain should be sought in the thalamus.

There appears to be no neuritis of the nerve or of the Gasserian ganglion.

To examine these suggestions: while infection of the teeth and antrum is common, trigeminal tic is comparatively rare. This seems to indicate that some additional factor is responsible for the disorder, and at present all that can be said is that the ætiology is unknown.

Symptoms.

The condition manifests itself as a characteristic picture. The recognition of this is important, because by the time the patients come to the neurosurgeon they have often had teeth removed and their antra washed out in the treatment of their facial pain.

The picture is one of strictly unilateral pain, trigeminal in distribution, severe in intensity, paroxysmal in onset, and precipitated by several stimuli (Penman, 1954).

1. The subject of this pain is usually in the latter half of life.

2. The patient is experiencing paroxysms of pain, which are confined to the peripheral distribution of one or more branches of the fifth nerve, last for seconds only, and occur with variable intensity. The pain is severe, sometimes excruciating, commonly described as stabbing, cutting, grinding or tearing. Between the paroxysms there is no pain. The pain usually begins in the second or third division of the nerve, less commonly in both. The spread from one division to another may not occur for months, perhaps years. The pain has the habit of choosing a particular region within a division. In the case of the third division, it is felt at the lip or along the lower part of the cheek in the beginning; then it spreads. When the second division is affected it is referred to the upper lip, the side of the nose or the middle of the cheek, and also to the temple beside the eye.

For example, the patient in Case 35 in our series presented with paroxysmal pain in the right temple. This pain had followed deep X-ray therapy to multiple skin carcinomata in this region, and the diagnosis was not clear-cut until three weeks later, when paroxysms occurred in the first

division. Injection of the Gasserian ganglion producing complete hemianæsthesia resulted in relief of the pain.

During a seizure the face may be screwed up voluntarily, and sometimes a clonic facial spasm accompanies the neuralgia and is probably due to irritation of the seventh nerve at the geniculate ganglion.

3. Trigger zones are present usually near the eye, nose or gum margins, and the slightest stimulation of these points induces a paroxysm—for example, chewing, swallowing, washing the face, or even a breeze on the face. As a result of this, elderly people may become malnourished, as every time they eat a paroxysm is produced.

4. No neurological signs are present on examination of the patient. If there is any diminution of the corneal reflex or hypoalgesia of the face, the pain is unlikely to be due to trigeminal tic, but is probably due to some other lesion of the trigeminal nerve.

5. Signs of autonomic irritation may accompany the paroxysms of pain, such as lachrymation, conjunctival injection, salivation, flushing on the painful side.

Diagnosis.

The diagnosis of this condition is not one of exclusion. It can be made at the first visit if we keep this symptom-complex in mind.

The Present Series.

Since May, 1954, 40 patients referred or presenting at the unit with this symptom-complex have had alcohol injection of the Gasserian ganglion. Eleven of the patients were males and 29 females. Their average age was sixty-four years; the youngest was aged thirty-eight years and the oldest eighty-two years. Five patients had the first division affected, 16 the second division and 19 the third division. The right side was affected in 30 cases and the left in 10.

Three patients required a second injection; one required a root section; one had supraorbital section. One case was a failure, though two injections were given.

The sequelæ were as follows: herpes of the lips, three cases; sixth nerve palsy, one case (recovery in three months); keratitis, two cases (one patient required tarsorrhaphy and one recovered with sulphacetamide); pain still present, two cases (one was the unsuccessful case, and the youngest patient, aged thirty-eight years, who had disseminated sclerosis).

Treatment.

In the treatment of this condition, some advocate alcohol injection for the elderly and nerve root section proximal to the ganglion in the younger age group. However, as alcohol injection is permanent in many cases, we believe that it should be tried in all cases initially before any patients are subjected to an intracranial operation.

In cases in which only a single division is involved, alcohol injection of the peripheral branch is sometimes employed; but the result is never permanent. Injection of the ganglion is the most efficacious method. If the alcohol is injected proximal to the ganglion cells, this procedure is capable of destroying the descending fibres of the tract in the brain stem (Penman and Smith, 1954). If this injection is carried out with care and patience, a single injection will in most cases result in lifelong sensory loss.

Section of the fifth nerve between the pons and the ganglion has been carried out once in our series. In this case injection had been attempted twice elsewhere and twice in the unit.

In this method and in alcohol injection anæsthesia of the cornea is a danger, resulting in some cases in keratitis (two in the present series).

Medullary tractotomy is advocated by Sjøqvist to avoid such a complication (Sjøqvist, 1938).

But these methods have the added risk of an intracranial operation.

All methods have the drawback of producing paræsthesia felt in the affected area long after the patient has forgotten the initial pain. In Case 10 in the series a patient suffering from right trigeminal tic was treated by injection and complete anæsthesia was obtained with relief of the pain. Three months later the patient said that she would rather have her pain back than experience the residual paræsthesia.

Disseminated Sclerosis.

In disseminated sclerosis the pain is probably due to the presence of sclerotic patches in the pons and medulla in the region of the descending spinal route of the fifth nerve. Some cases have been found in which the plaque has been located on the exit of the fifth nerve from the pons. Harris (1937) states that injection of the Gasserian ganglion will cure the pain in these patients. This is rather a surprising finding, since an intramedullary cause for the pain might be postulated; moreover, other facial pain of intramedullary origin, such as that which may occur in syringobulbia or follow a posterior inferior cerebellar thrombosis is not relieved by ganglion injection or sensory route section. This is borne out by one of our cases (Case 12), in which, after injection of the ganglia and the production of complete anæsthesia of one half of the face, the pain still persisted.

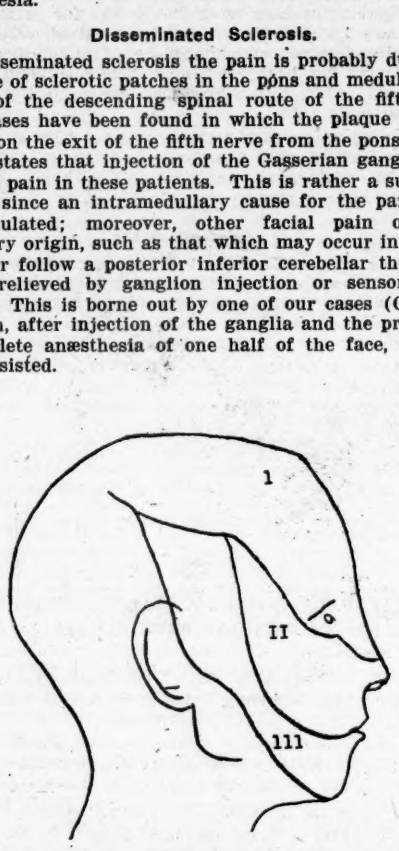

FIGURE I.

A male patient, aged thirty-eight years, suffered from severe pain in the second and third divisions of the left trigeminal nerve. He also had optic atrophy and cerebellar ataxia of the lower limbs, and both plantar responses were extensor in type. The history showed the typical evolution of disseminated sclerosis

Herpes Zoster.

Herpes zoster can occur in the trigeminal ganglion. It results in facial pain in the distribution of one or all of the branches of the fifth nerve, most commonly in the ophthalmic division, followed by eruption of the vesicles. When the inflammation of the ganglion recedes, several ganglion cells are as a rule lost, and the ensuing scar formation in the ganglion will represent an abnormal irritant to the remaining cells. This explains the occurrence of pain of a neuralgic type which often lasts for years. The following case (Case 7) is an example.

A female patient, aged seventy-two years, was referred by Dr. H. J. Windsor. She complained of severe left-sided facial pain chiefly involving the first and second divisions of the fifth nerve. This had followed an attack of *herpes zoster*. Some hypoæsthesia was present. The left ganglion was injected and complete anæsthesia was obtained. The patient was little relieved.

Aneurysms of the Internal Carotid Artery.

Though infraclinoid aneurysms regularly affect the trigeminal nerve, supraclinoid aneurysms may also in our experience produce pain in this distribution. According to the site of the aneurysm one may get various symptom complexes (Jefferson, 1938).

In posterior aneurysms all three divisions of the fifth nerve and the sixth nerve may be affected. In anteriorly placed aneurysms the first division of the fifth nerve and the third and fourth nerves are affected. Usually the first thing noticed is a constant pain in the first division of the fifth nerve followed later by hypoæsthesia or anæsthesia. The features of the supraclinoid aneurysms are illustrated by a patient referred to the unit by Dr. Charles Ewart.

The patient was a male, aged fifty-two years. He had had three episodes of subarachnoid hæmorrhage, the last in 1953. From the time of the first he had had pain in the right first division of the trigeminal nerve. This was made worse by coughing and sneezing and was associated with pain behind the right eye. He had a history of some remission of the pain; but in the six months prior to his admission to hospital the pain had become more or less continuous. On examination of the patient, he had hypoæsthesia of the right first division of the fifth nerve and a lower right quadrantic visual field defect. The rest of his central nervous system was normal. Bilateral carotid arteriography revealed a large aneurysm about the size of the terminal phalanx of the thumb. It filled only from the left carotid. Both anterior cerebral arteries also filled from the left (see Figure II). Operation revealed a large

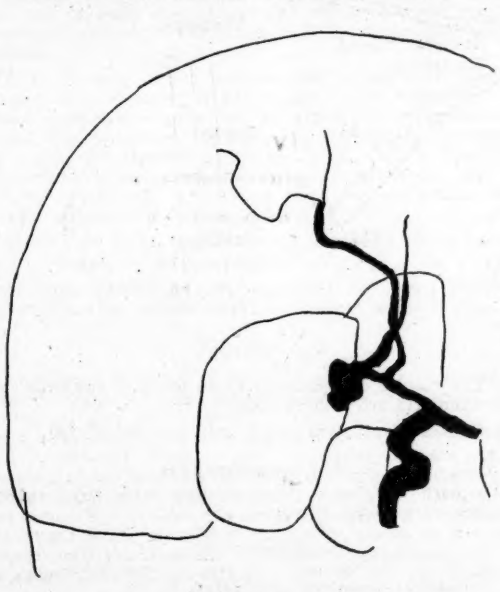

FIGURE II.

Line drawing of arteriogram taken obliquely through the left orbit, showing the aneurysm as described in the text.

aneurysm of the anterior communicating artery. The first division of the right trigeminal nerve and the right optic nerve were compressed by the aneurysm. The distal two-thirds of the aneurysm was full of old blood-clot. The proximal third was tissue-paper thin. It was treated by muscle packing. The patient had relief of pain after the operation and is still free of pain at the present time, some three months later.

Nasopharyngeal Carcinoma.

Nasopharyngeal carcinoma, a relatively uncommon condition, may present in the following ways: (*a*) with cervical glandular enlargement, which is indicative of spread; (*b*) with otological symptoms due to spread to involve the Eustachian tubes—for example, deafness; it can also present with bulging of the palate, epistaxis, blood-stained mucous discharge; (*c*) with neurological symptoms—pain in the distribution of the fifth nerve and/or diplopia.

Dental, nasal and sinus operations have been carried out for the relief of painful symptoms in patients who have later been proved to have nasopharyngeal carcinoma. This is illustrated by the following case.

A male patient, aged seventy years, was referred with a history of right-sided facial pain. The pain was at first relieved by aspirin and made worse by pressure on the right side of the face. One month previously he had undergone antral puncture with negative findings. On examination, he had depression of the right corneal reflex and hypoæsthesia of the first and second divisions of the right trigeminal nerve. Otological investigation revealed a fullness of the naso-pharynx, more pronounced on the right side. A vertico-mental view of the skull revealed extensive erosion of the right middle cranial fossa. He was treated by deep X-ray therapy at the Queensland Radium Institute after biopsy of the nasopharyngeal tumour.

Carcinoma of the antrum may present with constant facial pain.

Migrainous Neuralgia.

Migrainous neuralgia is probably the condition that Horton (1941) described as "histamine cephalgia". This form of migraine affects the head on one side, around the eye and temple. It differs from ordinary migraine in the absence of the aura and the rarity of nausea and vomiting. This type of neuralgia is especially likely to be mistaken for trigeminal tic; but it has no trigger zones, it usually commences in patients in the twenties, and the attack lasts for half to one hour. Many of these patients have their teeth extracted, antral operations performed and their eyes tested without benefit. Case 15 is an illustration.

A school teacher, female, aged thirty years, complained of severe right supraorbital pain with occipital headache coming on in conditions of stress and lasting about an hour. One member of her family had died of a cerebral tumour. Section of the supraorbital nerve was performed with lasting relief.

It seems that spasm of the anterior branches of the internal carotid and middle meningeal arteries is the cause, and the pain is reflected along the branches of the fifth nerve. Treatment is by supraorbital division or injection of the Gasserian ganglion. Ergometrine tartrate may produce relief, and this supports the migrainous nature of the condition.

Eyes.

Neuralgia of ocular origin may be due to an error of refraction or glaucoma. Chronic glaucoma, in which severe pain is experienced in the forehead, eye and temple, may be difficult to differentiate; but cupping of the optic disk and high intraocular tension should reveal the diagnosis.

Nasal Sinuses.

Infections of the nasal sinuses may produce continuous aching in the distribution of the supraorbital nerve in the case of frontal sinusitis. The infraorbital and superior alveolar nerves will be especially affected by infections of the maxillary sinuses, as only tiny lamellæ of bone or even mucous membrane covers the nerves. The pain is constant and is usually associated with post-nasal droppings increased by altering the position of the head, and there is local tenderness.

Inflammation of the air cells at the apex of the petrous temporal bone may be a complication of suppurative *otitis media*. This produces Gradenigo's syndrome—that is, pain in the trigeminal area, usually in the first division, accompanied by paresis of the external rectus muscle due to associated involvement of the sixth nerve. These nerves suffer by reason of their close association with the apex of the bone.

Dental Neuralgia.

Dental neuralgia is the commonest cause of pain in the face. The pain varies from the slight aching due to exposed

dentine or superficial caries to violent shooting pains when the caries has reached the pulp cavity.

A frequent source of difficulty is an unerupted wisdom tooth. When the tooth is definitely impacted against the second molar, the pain is more or less constant, with exacerbations referred into the ear and along the lower jaw; but the typical symptoms of a trigeminal tic are not present.

Eighth Nerve Tumours.

Eighth nerve tumours may present with constant pain in the face. But there are associated nerve deafness, diminished corneal reflex, facial weakness and cerebellar signs.

Glossopharyngeal Neuralgia.

Glossopharyngeal neuralgia is another type of paroxysmal pain, much rarer than trigeminal tic. It causes pain of similar character and intensity. The distribution is to the lateral region of the throat, the tonsil and around the ear.

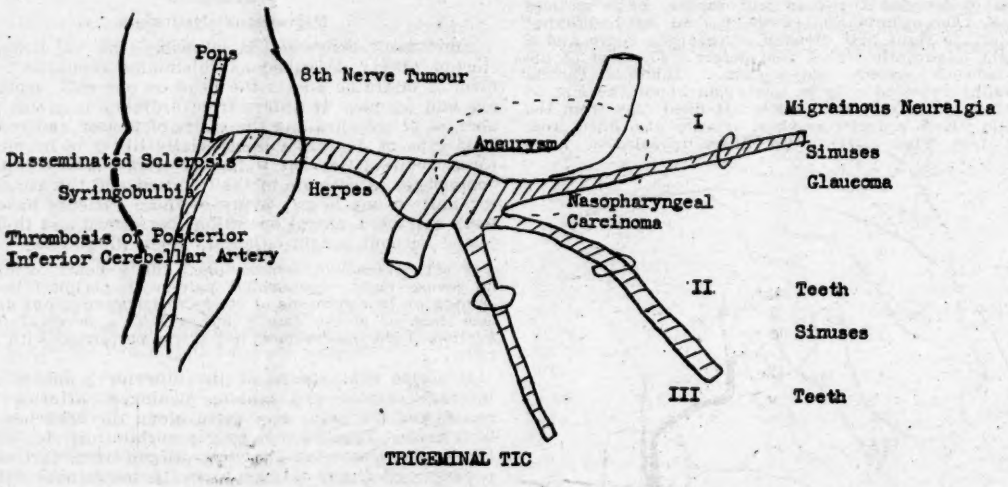

Figure III.

The pain spreads to the lower jaw, and comes on after yawning, swallowing, eating and talking. Sometimes touching the mouth of the external auditory meatus produces it. It has been shown that this type of neuralgia can be cured by avulsion of the glossopharyngeal nerve as high in the neck as possible, or by intracranial section of the nerve.

Hysterical Facial Pain.

Hysterical facial pain is a condition confined almost entirely to women. Discomfort is continuous. The lower jaw and maxilla are chiefly affected. These patients complain of continuous severe disabling pain and state that it never ceases; observation does not give this impression. Though it is important to recognize these cases, one must avoid the error of classifying as functional all cases in which some functional symptoms are exhibited, for a susceptible person who is suffering from true trigeminal tic may in time develop an overlay of secondary neurotic manifestations.

Surgical treatment must be rigidly avoided in such cases of truly functional pain.

Angina Pectoris.

The pain in *angina pectoris* may sometimes be referred to the angle of the jaw and cause confusion in the case of facial pain; but its relationship to effort, its rapid relief by rest and the associated substernal component form a classical diagnostic picture.

Conclusion.

Therefore the causes of facial pain may be summarized as in Figure III.

It is essential to differentiate the various types of facial pain. Some are rare, but others such as trigeminal tic are not, and because of the gratifying relief afforded the patient by its adequate treatment, it is well worth remembering the symptom complex of unilateral, precipitated pain of trigeminal distribution, with trigger areas and no neurological signs. Where there is evidence of these signs—for example, loss of pinprick sensation over the face or a diminished corneal reflex—full neurological investigation is essential.

Summary.

1. Facial pain is discussed.
2. The symptom complex of trigeminal tic is emphasized.
3. The results of treatment of 40 patients suffering from trigeminal tic are summarized.
4. Causes of atypical facial pain are considered.

Acknowledgements.

We wish to thank those doctors who have referred patients with facial pain.

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Addendum.

Since this article was submitted for publication, some 17 further patients with trigeminal neuralgia have been injected, with three failures; one of these has undergone root section.

VANADIUM POISONING IN INDUSTRY.

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IN a period of ten days, 14 cases of illness which can now be regarded as being due to the inhalation of vanadium dust were reported to the Industrial Hygiene Division of the Department of Health. Prior to reporting the cases, we give some notes on the harmful effects of dusts containing vanadium compounds, and some advice as to precautions to be taken.

The risk of industrial poisoning is through inhalation and/or to a much lesser extent ingestion, mainly of the pentoxide or sulphate or of mixed vanadium dust.

When wet, the dust is very acidic and can be highly irritant to the skin and eyes.

Signs and Symptoms of Poisoning.

The signs and symptoms of poisoning are irritation of the mucous membrane of the nose and throat and conjunctivæ, with greenish black discolouring of the tongue, anæmia, fits of dry coughing, rhinorrhexia and recurrent hæmoptyses, digestive disturbances and derangement of the kidneys, nervous troubles, trembling, headaches, psychic derangement and even blindness.

Sjoberg (1955) reports four cases of bronchopneumonia and one of lobar pneumonia and one of pleurisy amongst workers exposed to vanadium dust from cleaning oil-fired boilers.

R. C. Browne (1955) has recorded 12 cases of poisoning among men cleaning a gas turbine heat exchanger. In these cases some symptoms occurred almost immediately —smarting eyes and intense skin irritation, accompanied by difficulty in breathing. Some twenty-four to forty-eight hours later these symptoms became much worse. The men became extremely exhausted, one in particular being unable to climb a 12-foot ladder.

Williams (1952) has described a further eight cases in which symptoms were similar.

Symaski (1939) has advised that the work should be intermittent to allow recovery from adverse effects.

Health Aspect.

Vanadium is found in all fuel oil, and remains in the residual heavy oil after the more volatile fractions, such as petrol, paraffin and Diesel oil, have been distilled. It is thus a constituent of the exhausts of gas turbines using heavy residual fuels. The vanadium appears as the pentoxide after combustion. This can form an acid solution when mixed with water, and can be extremely irritating to the skin. The boilers are usually cleaned by chipping the pipes and using air hoses. At times, steam is also used. Bricklayers relining the combustion chambers are also exposed to the dust.

It is possible that sulphur compounds present may further increase the severity of symptoms. Vanadium present acts as a catalyst in the formation of oxidized sulphur compounds, such as sulphur trioxide.

Prophylaxis against vanadium poisoning depends on efficient ventilation, efficient hygiene (factory and personal), and efficient use of respiratory apparatus, overalls and goggles.

In Norway the factory authorities, in collaboration with the employers and trade unions, have instituted the following precautions to be observed during the cleaning of oil-fired boilers:

> The cleaners shall wear a fresh air respirator, a boiler suit of acid resisting material (with tight fitting bands at wrists, neck and ankles), gauntlet gloves and high boots.

The following clinical notes are derived from three series of cases in different plants.

Plant I.

Mr. A. was admitted to hospital on August 22, 1955. The patient was born in Malta and had been in Australia for five years. He worked for three and a half years as a spray-painter. For the past eighteen months he cleaned briquette boilers. Twenty-four hours prior to his admission to hospital he was cleaning a boiler which usually burns oil. He was wearing a loose overall, a mask and a rag over his nose—no protective clothing or bands over his overalls. The patient spent five hours cleaning the boiler, with a five-minute "smoko" every half-hour. While cleaning the boiler he noticed the onset of frontal headache; it was not very severe, but persisted for twenty-four hours. He then noticed the onset of a dry cough, which persisted for a few hours. He also complained of mild colicky abdominal pains. After sixteen hours he complained of itchiness all over the body, swelling of the lips and smarting of the eyes. Those symptoms had persisted. The headache gradually became less severe, but he complained of intense skin irritation. He had had no abdominal pain for eight hours.

On examination, the patient was a healthy-looking, dark-skinned young man with a generalized urticarial rash, lying quietly in bed. His temperature was 97·4° F., his pulse rate was 80 per minute, and regular, his respirations numbered 18 per minute. His blood pressure was 130 millimetres of mercury, systolic, and 80 millimetres, diastolic. The breath sounds were bronchovesicular with expiratory wheeze, and numerous sibilant rhonchi were heard in both inspiration and expiration. No abnormality was detected in the heart, abdomen, glands, central nervous system, or optic fundi. Mild conjunctivitis was present, and examination of the skin disclosed a generalized urticarial rash.

He was treated symptomatically. The urticarial rash and the skin irritation disappeared within twenty-four hours. The bronchospasm gradually disappeared over one week. The patient was then discharged from hospital.

On August 22 the concentration of vanadium in the urine was 0·07 milligramme per litre.

Plant II.

Ten men who had been cleaning out an oil-fired furnace without any protection reported with various symptoms. All complained of headache and hoarseness. Seven complained of a rash, two had epistaxis and hæmoptysis, most had nausea and two had vomited; five said that their eyes were sore and complained of a prickling condition round the mouth. The eyes were inflamed and sores were obvious on the lips. Two had tongues which were discoloured green. All were very worried about their condition and refused to continue work. They were told to go home, and if further symptoms developed to consult their own doctor. One was sufficiently ill the next day to receive local treatment. Eight reported back to work after the week-end as fit and prepared to resume work if suggested precautions were adopted. Two reported to this office as being still affected and unfit to work, with nausea, blackouts and general malaise. They were put off work for a week. One reported a day later with bronchitis, sore throat and conjunctivitis; he was afebrile and was regarded as having a delayed reaction. Urine specimens were taken from four men; in two specimens vanadium was demonstrated; the amount of the other two was too small to be satisfactory. In the soot in which the men were working, 1·25% vanadium was found. Two were subsequently sent to a specialist physician, and his notes give the following details:

Mr. L. had a blood pressure of 160 millimetres of mercury, systolic, and 100 millimetres, diastolic. The nasal mucosa and pharynx were reddened, many rhonchi were scattered over both sides of the chest, and some epigastric tenderness was present. When he was reviewed seven days later he was still complaining of indigestion and diarrhœa, but his hoarseness was greatly lessened and his chest was clinically clear. No abnormality was detected in his urine. Seven days later again this patient was still complaining of indigestion and loose motions.

Mr. T. had no clinical signs by this time.

Plant III.

Several men were working about ovens heated by oil fires. There was a considerable amount of smoke and fume from the fires and considerable complaint from operatives.

One reported to this division suffering from sore throat, hoarseness, a feeling of rawness in the chest, and chronic cough with phlegm, frontal headache and chronic conjunctivitis. He had been well until a new oil fuel was used, and from that time on the foregoing symptoms appeared. Since he was removed from the hazard his condition has improved considerably. The sore throat, hoarseness and rawness have disappeared, but the cough remains. However, he is a heavy smoker. Examination of the urine showed it to contain 0·043 milligramme of vanadium per litre.

Several other men working near the ovens had similar symptoms, one especially with severe epistaxis, hoarseness and rawness of the chest and throat.

Colorimetric Determination of Vanadium with 8-Hydroxy-Quinoline.

A modified colorimetric method was used for the determination of microscopic amounts of vanadium in urine, and in the dust which occurs in the cleaning of oil-fired boilers. The method is based on the development of a magenta-black colour with vanadium and 8-hydroxy-quinoline in an alcohol-free chloroform medium.

Reagents.

The following reagents are used:

Methyl orange indicator, 0·1% in distilled water.

Nitric acid, redistilled in "Pyrex" glass.

Ammoniacal buffer solution, pH 9·4. Dilute 200 millilitres of 4·0N ammonium hydroxide solution and 100 millilitres of 4·0N nitric acid to two litres with distilled water.

Phthalate buffer solution, pH 4·0. This is potassium hydrogen phthalate solution, 0·05M, in distilled water.

Alcohol-free chloroform. Extract the alcohol from chloroform by shaking vigorously with four separate portions of distilled water, each portion being one-half the volume of the chloroform. Store in the refrigerator.

8-hydroxy-quinoline solution. Prepare 0·5% and 0·1% of reagent grade 8-hydroxy-quinoline in alcohol-free chloroform. Store in the refrigerator.

Stock vanadium standard. This is prepared from ammonium vanadate. This stock standard contains 100 microgrammes of vanadium per millilitre. Make dilutions of the stock solution as needed.

Wet Ashing.

The wet ashing is carried out as follows:

Transfer 150 millilitres of urine to a 250 millilitre "Pyrex" beaker and add 30 millilitres of concentrated nitric acid. Evaporate to approximately 30 millilitres and transfer to a Kjeldahl apparatus and ash. Repeat the ashing with nitric acid until a pure white residue is obtained.

To the ash add one millilitre of nitric acid and 50 millilitres of distilled water to hydrolyse polyphosphates, and evaporate to 25 millilitres.

Analytical Procedure.

The analytical procedure is as follows:

Transfer 25 millilitres of the sample solution to a 125 millilitre separating funnel, make a total volume of about 50 millilitres. Add a few drops of methyl-orange indicator and neutralize to the intermediate colour of the indicator with 4·0N ammonium hydroxide solution or 4·0N nitric acid. Add two millilitres of phthalate buffer solution. Extract the vanadium by shaking for two and a half minutes with each of three successive 5-millilitre portions of 0·5% 8-hydroxy-quinoline solution in alcohol-free chloroform. Transfer the chloroform layers into a second separating funnel containing 50 millilitres of the ammoniacal buffer solution.

Shake the chloroform extracts with ammoniacal buffer solution for five minutes, then draw off and discard the chloroform layer. Wash the aqueous phase by shaking with five millilitres of alcohol-free chloroform until the chloroform layer remains colourless. Discard the chloroform layer. Add a few drops of methyl-orange indicator to the aqueous phase and neutralize with 4·0N nitric acid. Clean the stem of the funnel with a filter paper. Adjust the aqueous solution to pH 4·0 by adding two millilitres of phthalate buffer solution. Extract the vanadium by shaking for two and a half minutes with each of two successive 5·0 millilitre portions of 0·1% 8-hydroxy-quinoline solution in chloroform. Draw off these extracts into a glass-stoppered graduated cylinder. Add some sodium sulphate to remove moisture present. After shaking this vigorously, add some of the solution to a Spekker cell. Determine the light absorption on the Spekker photoelectric absorptiometer. Set the drum at 0·50 against 0·1% 8-hydroxy-quinoline solution in alcohol-free chloroform. Measure the absorption by the use of "Ilford" yellow-green filters.

Determine the vanadium content from a calibration curve obtained by treating a series of known amounts of vanadium in the same manner as the prepared samples.

For the determination of vanadium in dust, take 1·0 gramme of the latter, add 10 millilitres of nitric acid and boil for an hour. Dilute with distilled water, filter, and make the volume up to 100 millilitres. Determine the content of vanadium as above.

Results.

To determine the degree of accuracy of the method, specimens of normal urine containing known amounts of vanadium were prepared and their vanadium contents determined. Table I shows the amounts of vanadium recovered.

Table I.

Recovery of Vanadium Added to Urine.

Amount of Vanadium Added. (Microgrammes per Litre.)	Amount of Vanadium Recovered. (Microgrammes per Litre.)	Percentage of Recovery.
53·3	53·3	100·0
66·6	66·6	99·1
80·0	81·3	101·6
93·3	94·0	100·8
106·6	105·3	98·8

These results indicate that the degree of accuracy of the method can be considered satisfactory by the standards usually recognized for this type of determination.

Summary.

It would appear that the symptoms complained of by these men were due to the inhalation of dust containing vanadium compounds and possibly some sulphate. The presence of vanadium in the dust was demonstrated by chemical analysis.

It will be noted in the first case described that five hours' exposure with partial protection was sufficient to produce symptoms, while in the second series up to 120 hours without protection were worked before the operatives realized that something was amiss. The first furnace had been in use for some considerable time, while in the second instance it was a comparatively new furnace in use for only a few months.

The effects of the inhalation of vanadium compounds may produce symptoms that are disabling. In the milder cases they disappear rapidly on removal of the patient from the hazard. However, in the second series the symptoms created rather a panic amongst the men, which led to a complete cessation of work.

In the second series the hazard was eliminated very simply by hosing down the tubes of the boiler.

It is essential that protective clothing and an efficient dust mask be supplied to men employed in cleaning oil-fired boilers.

Acknowledgements.

We wish to thank Dr. D. R. Gauld and Dr. K. Grice for their clinical notes.

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Reports of Cases.

THE AMBULATORY TREATMENT OF CORONARY DISEASE WITH ANTICOAGULANTS.

By A. T. H. JOLLY,
Perth.

Two patients came under the care of the writer in 1953; one, deprived of anticoagulants on leaving hospital, died before their full reintroduction. The other, with less recovery indicated by electrocardiographic tracings, has survived and is working at his calling as an engine driver. He has continued anticoagulant therapy for over two years.

The series of 43 patients discussed in this report were chosen from a larger series of 134 patients because they had definite angina of effort or a previous history of coronary infarct. The other 91 patients had no anginal pain and no cardiac infarction. Six of them had occlusion in one or both popliteal arteries from atherosclerosis. Five had senile Parkinson's disease with thickened radial arteries and visible pulsation of the brachial artery. One had malignant hypertension with threatened retinal thrombosis. Two elderly patients had retinal thrombosis and thickened radial arteries with visible pulsation of the brachial artery. Eighteen elderly patients had thickened arteries with, in addition, one or more of the following manifestations: syncope, transient paresis, transient sensations in one or more limbs, permanent or transient ataxia, and amnesia of increasing severity with mental deterioration. The remaining 59 patients were of varying ages and had hypertension with symptoms (systolic pressure over 200 millimetres of mercury, diastolic pressure over 110 millimetres).

In the cases reported two categories of coronary disease are listed: (i) repeated angina of effort relieved by amyl nitrite or trinitrin; (ii) a history of one or more coronary infarcts shown by the electrocardiographic tracings, with or without angina of effort. Other types of atherosclerosis and arteriosclerosis have been treated. Altogether, with and without coronary disease, these number 134 patients treated with anticoagulants for three months and over. One patient (Case 15) died from a second coronary infarct before anticoagulant treatment was fully reintroduced. Another (Case 33) died of a coronary infarct when anticoagulants were temporarily suspended during stabilization of his diabetic condition. A third patient (Case 7) died two months after he refused further anticoagulant therapy. Yet another patient (Case 13) died two weeks after he refused further anticoagulant therapy. During the period of two years four patients who received no anticoagulant treatment have died of coronary infarct.

Only two patients have died during anticoagulant therapy from possible results of treatment. One, a woman, aged sixty-two years, died from a subarachnoid hæmorrhage. She was suffering from hypertension, encephalopathies and signs of myocardial degeneration. At the time of her death her prothrombin level was 25%. The other, a male, aged seventy-two years, was suffering from bilateral popliteal occlusion. He died from cerebral hæmorrhage and hemiplegia. His prothrombin level was 30%.

Two anginal patients (Cases 28 and 37) deteriorated when anticoagulant therapy was first started. Subintimal hæmorrhage was suspected, and massive doses of vasodilators were given and three weeks' complete rest was ordered. Subsequently both patients improved dramatically when anticoagulant treatment was reintroduced.

Only four patients required blood transfusion, and two of these had dicoumarol before "Dindevan" was freely available.

Severe hæmorrhages were mainly from preexisting lesions, three peptic ulcers and one carcinoma of the stomach.

None of these cases was fatal, although the hæmorrhage was severe. Hæmaturia was the commonest minor hæmorrhage, with purpura second.

The drugs used in all cases were heparin and phenylindanedion or "Dindevan", the former being used only when life was immediately threatened.

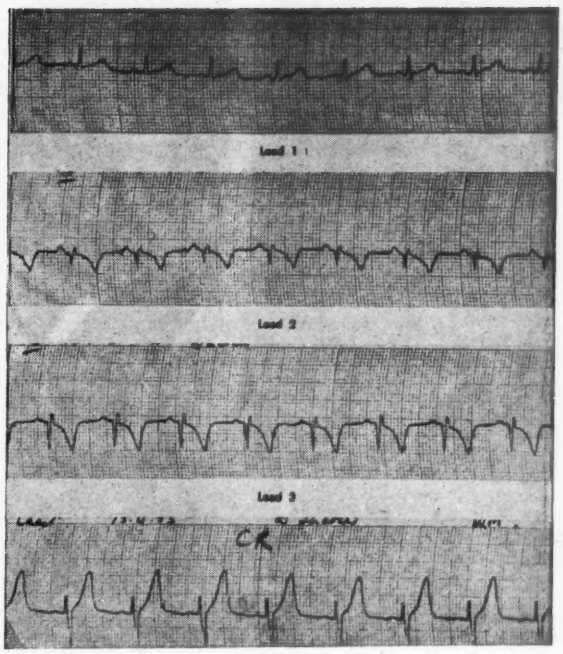

FIGURE I.

Electrocardiogram in Case 39, taken on April 16, 1953; leads I, II, III and CR.

The daily dosage of "Dindevan" varied from 25 milligrammes (half a tablet) to 200 milligrammes (four tablets) daily. Except in urgent cases the drug was administered in small doses at first, and the amount was gradually increased until the prothrombin level was from 40% to 20%. Quick's method was used in establishing clotting times. The prothrombin level was estimated every twenty-four to forty-eight hours at first, and when the patient's condition was stabilized, every seven to fourteen days.

All patients were warned of the danger of the drugs used, and they were given a small printed sheet of instructions. If the patient could not be relied on, responsible relatives were warned. Unless full cooperation was possible the drugs were not given.

If severe renal or hepatic failure was obvious, anticoagulants were not given.

If the prothrombin level fell below 20% and there were no hæmorrhagic symptoms, "Dindevan" was temporarily withdrawn. In the event of minor hæmorrhage, 20 milligrammes of vitamin K_1 were given by mouth every four hours, and "Dindevan" was withdrawn until the prothrombin level was over 20%. If hæmorrhage was severe, 50 milligrammes of vitamin K_1 were given every four hours and "Dindevan" was withdrawn until the prothrombin level was over 20%.

Blood grouping should be carried out in all cases so that a transfusion can be administered without delay.

It is possible to be objective with anginal patients by the single question: "How are your chest pains?" The answer requires no reflection by these patients; the pain is "better" or "worse" or "not improved". By inquiry into the number of times per day or week the patients have to use vasodilators an estimation can be made of the improvement or otherwise.

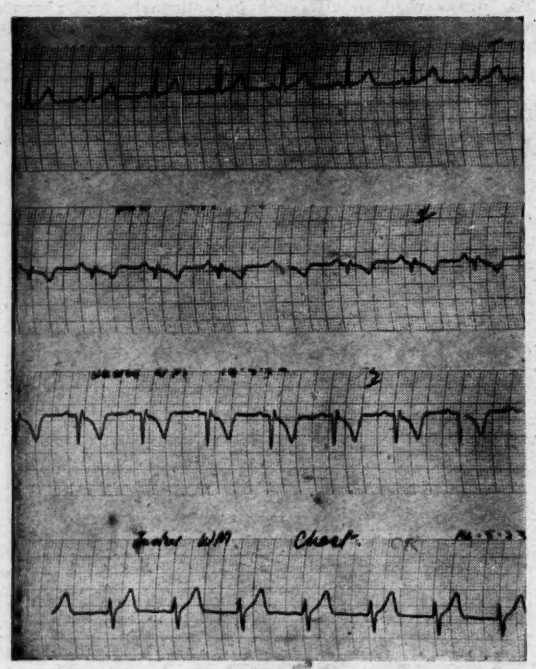

FIGURE II.

Electrocardiogram in Case 39, taken on May 14, 1953; leads I, II, III and CR. There is very little improvement in the tracings, which show a similar pattern to those in Figure I. This patient has returned to work and is still having anticoagulant treatment. He is practically free of anginal symptoms. His present electrocardiograms are similar.

Case 7.

Mr. G, aged sixty-nine years, was first examined on June 19, 1953. He gave a history of asthma and dyspnœa of three years' duration following a "strained heart". His blood pressure was 240 millimetres of mercury, systolic, and 120 millimetres, diastolic, and albuminuria was present. An electrocardiogram showed inverted *T* waves in lead I, and large *S* deflections with upright *T* waves in the CR lead, indicating an old infarct. His heart was greatly enlarged and he complained of anginal pains on effort. He was given "Vegolysen" with amyl nitrite and digitalis for his hypertension and myocardial condition, and aminophyllin for his dyspnœa, with improvement. On February 27, 1954, he complained of a very severe anginal attack, which subsided with amyl nitrite and rest.

Anticoagulant treatment was commenced; "Dindevan" was given in a dosage of 50 milligrammes daily, which was subsequently increased to 50 milligrammes and 100 milligrammes on alternate days, and then to 100 milligrammes on two successive days and 50 milligrammes on the third day. The patient's average prothrombin level was 20% of normal up to January 22, 1955. His anginal pains subsided except during excessive exercise, and he was able to do light work. His dyspnœa was not relieved and nocturnal symptoms were distressing, but relieved by aminophyllin suppositories. After January 22 he refused further treatment, and he died from a coronary infarct two months later.

Case 12.

Mr. L, aged fifty-three years, was first examined on May 1, 1954. He complained of severe chest pain with exercise, easing on rest, over the past two years—so much so that work was becoming impossible. His blood pressure was 160 millimetres of mercury, systolic, and 100 millimetres, diastolic. His heart was not enlarged and his electrocardiogram was normal. The pains were relieved with amyl nitrite. Anticoagulant treatment was started; the dosage eventually reached 100 milligrammes of "Dindevan" daily. His average prothrombin level was 25% of normal. He improved immediately, and the improvement was continued. He now has very few anginal attacks, and those he has are not severe and do not interfere with his work. Treatment is being continued.

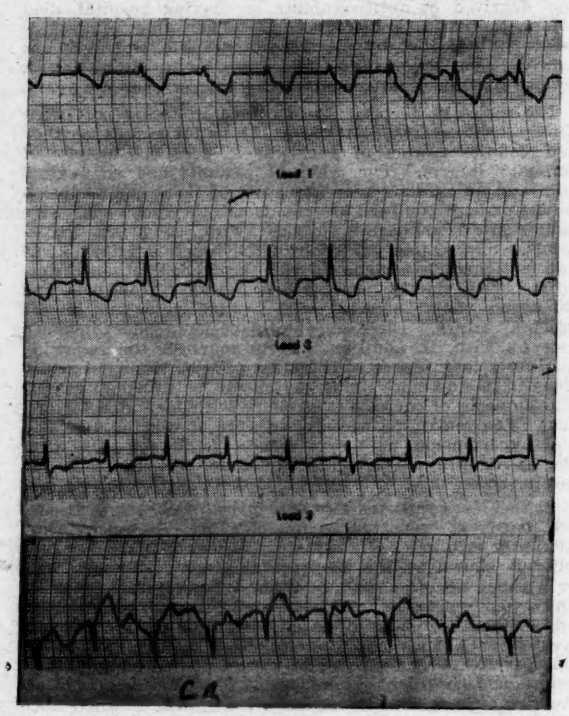

FIGURE III.

Electrocardiogram in Case 15, taken on January 27, 1954; leads I, II, III and CR.

Case 13.

Mr. M, aged sixty-four years, was first examined on December 1, 1953. He complained of dyspepsia and of "food sticking in his throat, but eventually passing". He had previously undergone a barium meal X-ray examination, which gave negative results. He was short of breath and developed epigastric pain with exercise, and the symptoms were relieved by trinitrin (one one-hundredth of a grain). A diagnosis of achalasia of the cardia or *angina pectoris* was made. On December 11 he developed a severe precordial pain whilst putting down a new floor. The pain was relieved with amyl nitrite, 12,500 units of heparin were given, and "Dindevan" therapy was started with a dosage of 100 milligrammes daily. On December 23 an electrocardiogram showed no coronary infarct. He refused further treatment after January 7, 1954, and he died two weeks later from a coronary infarct.

Case 14.

Mr. N, aged fifty-seven years, was first examined on September 22, 1952. He complained of breathlessness and nocturnal dyspnœa with pain in the precordium on exertion, of six weeks' duration. His blood pressure was 220 millimetres of mercury, systolic, and 120 millimetres, diastolic, and his heart was dilated. The electrocardiogram showed an inverted *T* wave in leads I and II and a low take-off and upright *T* wave in the C R lead. On being told of his condition, the patient took a trip to England to see his people, and the diagnosis of anterior coronary infarct was confirmed there. He returned to Australia on November 24, 1953, and the electrocardiogram showed the same pattern. He was then given "Dindevan", 50 milligrammes daily, and the treatment was continued indefinitely. After taking "Dindevan" he lost his anginal pain and he was able to resume his work without trouble. His dyspnœa also practically vanished with ordinary exercise. His average prothrombin level was 20%. An electrocardiogram taken on April 20, 1955, was near normal for the first three leads and the chest lead, but evidence of infarction was still seen in lead V6. Treatment is still continuing.

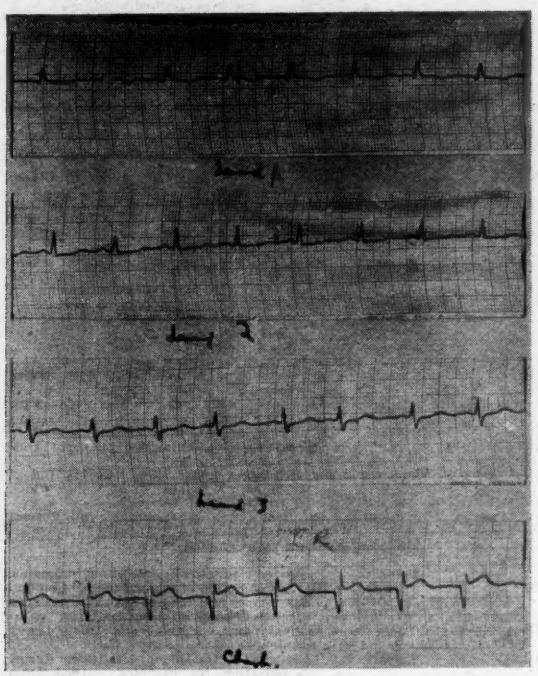

FIGURE IV.

Electrocardiogram in Case 15, taken on March 23, 1954; leads I, II, III and CR. The second tracing shows considerable improvement. Nevertheless the patient died before anticoagulant treatment could be properly reintroduced.

Case 15.

Mr. O, aged fifty years, was first examined on February 8, 1949. He complained of epigastric pain, made worse by exercise. His blood pressure was 200 millimetres of mercury, systolic, and 120 millimetres, diastolic, and his heart was normal. He subsequently developed malignant hypertension and Smithwyck's operation was performed with considerable improvement, his blood pressure being 160 millimetres of mercury, systolic, and 100 millimetres, diastolic. He still required vasodilators for his anginal pains. On January 27, 1954, he developed severe pain in the chest, which was not relieved by trinitrin or rest. He reported two hours later, and the electrocardiogram showed inverted *T* waves in leads I, II and III, with a low take-off in all leads and a large *S* wave; an upright *T* wave was seen in the C R lead. He was referred to the Royal Perth Hospital, where anticoagulants were given and his condition improved. On leaving hospital he reported again on March 15, 1954, and the electrocardiogram then showed an inverted *T* wave in lead I and a large *S* wave in the chest lead, with an upright *T* wave and a high take-off.

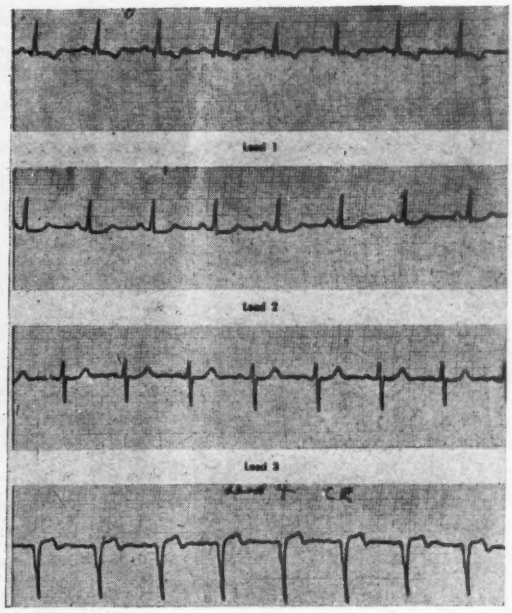

FIGURE V.

Electrocardiogram in Case 14, taken on September 25, 1952.

All other lead tracings were normal. Anticoagulants were reintroduced in a dosage of 25 milligrammes daily, as his anginal pains were severe on the least exercise. His prothrombin level did not decrease, so the dosage was increased to 100 milligrammes on March 30, 1954. He died that night from a further infarct.

Case 16.

Mr. P, aged fifty-nine years, was first examined on April 20, 1954. He complained of shortness of breath and severe precordial pain, extending down both arms and into the throat on exercise, present for the past twelve months. His blood pressure was 160 millimetres of mercury, systolic, and 100 millimetres, diastolic, and his heart was enlarged. The electrocardiogram showed an inverted *T* wave in lead I; a large *S* wave and upright *T* wave in the C R lead indicated a "T1" infarction.[1]

Anticoagulant therapy was started with "Dindevan", 25 milligrammes daily, the dosage being increased to 100 milligrammes daily as the patient became tolerant to it. His average prothrombin level was 30% of normal. On March 22, 1955, he was free of all symptoms of angina and no longer dyspnœic. The electrocardiogram on March 22 was of the same pattern as originally. He was able to carry on his arduous duties as a farmer without trouble. Anticoagulant therapy was withdrawn at this stage for a three months' trial.

[1] The "T1" type of infarction is the anterior type, from thrombosis of the descending branch of the left coronary artery (Price, 1946).

TABLE I.

Case.	Age. (Years.)	Sex.	Type of Condition.	Period of Treatment with Anti-coagulant.[1]	Average Prothrombin Percentage and Average Daily Dose (Milli-grammes).	Hæmorrhagic Complications.	Period of Illness.	Result.
1. A	72	M.	Angina.	9 months.	30%; 50	Nil.	5 years.	Improved; only occasional and slight anginal pain.
2. B	76	M.	Coronary T1 infarct and angina.	6 months.	25%; 75	Hæmaturia, purpura.	6 months.	Improved; only few anginal pains with excessive exercise. Pneumonia precipitated hæmorrhagic complications.
3. C	44	M.	Coronary T3 infarct and angina.	6 weeks.	30%; 100	Nil.	6 weeks.	Anginal pains quickly relieved; able to return to work with no trouble.
4. D	67	M.	Angina.	7 months.	35%; 75	Nil.	3 years.	No angina except on excessive exercise.
5. E	61	F.	Angina.	9 months.	45%; 100	Nil.	9 months.	No angina except on excessive exercise.
6. F	46	F.	Coronary T3 infarct and angina.	3 months.	25%; 75	Nil.	4 months.	Anginal pains completely relieved.
7. G	69	M.	Coronary infarct and angina.	11 months.	20%; 80	Nil.	5 years.	Angina greatly relieved. Able to resume work. Died suddenly 2 months after he refused treatment.
8. H	54	M.	Angina.	22 months.	35%; 100	Nil.	3 years.	Improved, able to work without anginal pain.
9. I	43	F.	Angina.	16 months.	30%; 100	Nil.	5 years.	Angina greatly improved; able to play tennis and work without pain.
10. J	69	F.	Coronary T1 infarct and angina.	6 months.	10%; 37·5	Nil.	3 years.	No improvement at first. When drug was withdrawn, demanded its return after few weeks.
11. K	54	M.	Coronary T3 infarct and angina.	19 months.	30%; 75	Nil.	3 years.	Improved regarding anginal pains.
12. L	53	M.	Angina.	12 months.	25%; 125	Nil.	2 years.	Improved; able to work without pain.
13. M	64	M.	Angina.	4 weeks.	25%; 50	Nil.	6 months.	Refused further treatment; died 2 weeks later from coronary infarct.
14. N	57	M.	Coronary T1 infarct and angina.	18 months.	20%; 50	Nil.	4 years.	Able to resume profession. Free of anginal pain. Improved pattern in electro-cardiogram.
15. O	50	M.	Coronary T1 infarct and angina.	2 months.	100%; 25	Nil.	6 years.	Died after returning from hospital before anticoagulants were properly reintroduced.
16. P	59	M.	Coronary T1 infarct and angina.	12 months.	30%; 100	Nil.	18 months.	Angina completely relieved. Resumed full work. Three-month trial off "Dindevan".
17. Q	76	M.	Angina.	3 months.	15%; 50	Melæna; blood transfusion.	4 months.	Angina relieved; developed hæmorrhage from peptic ulcer.
18. R	48	F.	Angina.	9 months.	30%; 100	Nil.	2 years.	Pains relieved for all but most severe exercise.
19. S	74	F.	Angina.	10 months.	30%; 75	Nil.	3 years.	Improved; only very occasional pain.
20. T	60	F.	Angina.	11 months.	40%; 75	Nil.	1 year.	Improved; no anginal pain.
21. U	53	M.	Coronary T1 infarct and angina.	9 months.	25%; 75	Nil.	2 years.	Improved; able to resume work with no anginal pain.
22. V	78	F.	Coronary T3 infarct and angina.	8 months.	20%; 25	Nil.	6 years.	Improved; no anginal pains now.
23. W	56	M.	Angina.	15 months.	20%; 100	Nil.	7 years.	Improved; pains come only with severe exercise.
24. X	65	F.	Angina.	6 months.	15%; 100	Hæmaturia.	6 months.	Improved; only mild anginal pains with maximum effort.
25. Y	70	M.	Angina.	5 months.	25%; 100	Nil.	10 years.	Able to resume work; no anginal pain.
26. Z	79	M.	Angina.	6 months.	15%; 100	Nil.	6 months.	Improved; free of anginal pains; "Dindevan" withdrawn.
27. AA	80	M.	Coronary T1 infarct.	11 months.	15%; 50	Nil.	Many years.	Patient never complained of angina, but of dyspnœa. Was able to do things which he had not done for years.
28. BB	65	M.	Angina.	9 months.	30%; 100	Nil.	18 months.	Practically free of angina for all normal work.
29. CC	63	M.	Coronary T1 infarct and angina.	6 months.	23%; 37·5	Nil.	5 years.	Freed from anginal pains.
30. DD	65	M.	Angina.	11 months.	35%; 100	Nil.	2 years.	Improved; practically free of anginal pains.
31. EE	59	M.	Coronary T3 infarct.	18 months.	30%; 100	Nil.	3 years.	Did not complain of anginal pains. Cerebral thrombosis and hemiplegia much relieved after anticoagulant treatment.
32. FF	76	M.	Coronary infarct and angina.	10 months.	20%; 75	Nil.	10 months.	Anginal pains. Patient able to do heavy gardening.
33. GG	68	M.	Angina.	4 weeks.	15%; 100	Nil.	2 years.	"Dindevan" treatment withdrawn during stabilization for diabetes. Died from coronary infarct during this period.
34. HH	60	F.	Angina.	8 months.	20%; 25	Nil.	6 months.	Angina relieved for all ordinary work.
35. II	65	F.	Angina.	6 months.	25%; 100	Nil.	1 year.	Anginal pains relieved for all ordinary work and exercise.
36. JJ	75	F.	Angina.	15 months.	50%; 75	Nil.	2 years.	Angina relieved for all ordinary work and exercise.
37. KK	45	M.	Angina.	9 months.	40%; 150	Nil.	15 months.	Angina relieved except for excessive exercise; able to resume work.
38. LL	64	M.	Angina.	9 months.	24%; 75	Nil.	2 years.	Angina relieved except for excessive exercise; able to resume work.
39. MM	47	M.	Coronary T3 infarct and angina.	26 months.	40%; 200	Nil.	2 years.	Angina relieved; able to work as engine-driver.
40. NN	64	F.	Angina.	7 months.	45%; 100	Nil.	1 to 2 years.	Anginal pain less often and less severe than before.
41. OO	60	M.	Angina.	6 months.	38%; 100	Nil.	1 year.	Angina relieved for usual painting work.
42. PP	76	F.	Coronary T1 infarct and angina.	11 months.	22%; 75	Nil.	1 year.	Improved; still few anginal pains.
43. QQ	71	M.	Angina.	15 months.	22%; 100	Nil.	2 years.	Anginal pains relieved for all exercise.

[1] "Dindevan" treatment is continuing except where otherwise stated.

Case 22.

Mrs. V, aged seventy-eight years, was first examined on October 19, 1948, suffering from precordial pain on exercise. Her blood pressure was 190 millimetres of mercury, systolic, and 90 millimetres, diastolic, and her heart was enlarged. Her symptoms were relieved by digitalis and trinitrin.

On December 8, 1952, she had a transient right-sided hemiparesis. She was given 25 milligrammes of "Vegolysen" daily and "Praenitron", one milligramme before meals. Her blood pressure came down to 150 millimetres of mercury, systolic, and 80 millimetres, diastolic, and she had no further cerebral catastrophes.

On August 7, 1954, she reported with severe persistent precordial pain of three days' duration. An electrocardiogram showed an inverted *T* wave on a low take-off in lead I and the C R lead, with an upright *T* wave and high take-off in lead III, indicating a recent anterior infarct. Anticoagulant therapy was started with 50 milligrammes of "Dindevan" daily and 12,500 units of heparin on the first day. Subsequently the "Dindevan" dosage was reduced to 25 milligrammes daily. Her average prothrombin level was 20% of normal, and she was free of symptoms during the first week of treatment. She was brought in by motorcar for prothrombin estimations on August 14 and 19 and on September 2 and 19. Apart from these outings, she was kept strictly at rest at home for four weeks. She has maintained her improvement and is still receiving anticoagulant therapy.

knees. Whilst under treatment for this condition he developed severe intermittent anginal pain, which subsided. He was given 25 milligrammes of "Dindevan" daily as a prophylactic against further attacks. He was brought into the surgery on November 22 with intense precordial pain of twelve hours' duration; this was immediately relieved by amyl nitrite and 12,500 units of heparin given intravenously. An electrocardiogram showed no significant changes, although it was thought at the time that he had actually had an infarct. The dosage of "Dindevan" was increased to 50 milligrammes and 100 milligrammes on alternate days. On November 26 a further electrocardiogram showed no significant changes. His anginal symptoms were relieved, but his prothrombin level became dangerously low (15%). The dosage was maintained, and he soon became free of symptoms. Treat-

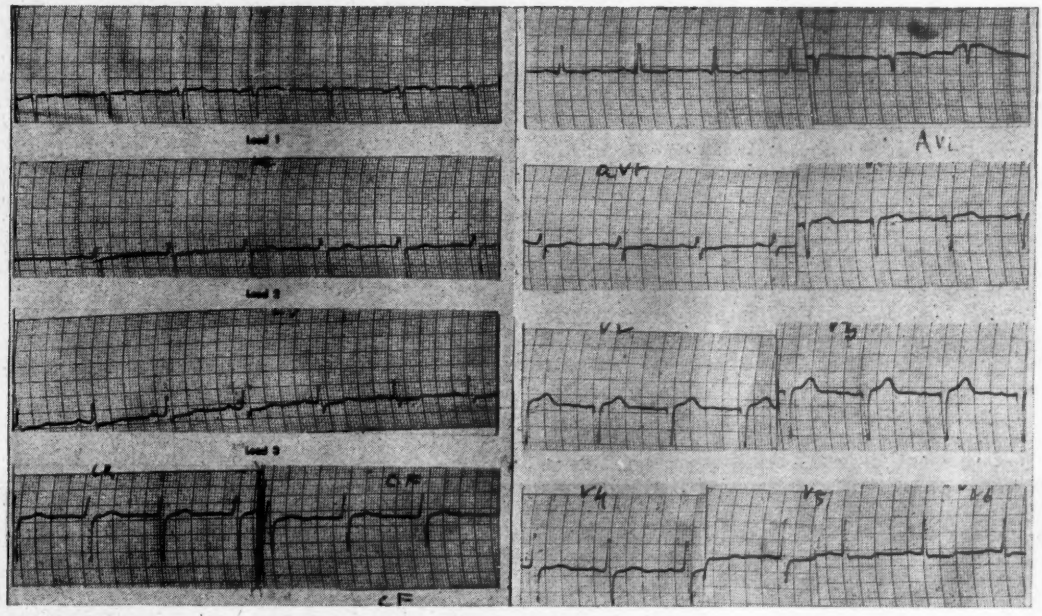

FIGURE VI.

Electrocardiogram in Case 14, taken on April 20, 1955, after over a year of anticoagulant treatment. An electrocardiogram taken on November 24, 1953, was substantially the same as that shown in Figure V. The tracing in Figure VI shows evidence of infarction only in lead V_6.

Case 24.

Mrs. X, aged sixty-five years, was first examined on November 22, 1954, because of severe repeated attacks of angina which were relieved by amyl nitrite. Her blood pressure was 190 millimetres of mercury, systolic, and 100 millimetres, diastolic, and her heart appeared normal. Her electrocardiographic tracings were not significant. Owing to the severity of her anginal attacks, 100 milligrammes of "Dindevan" were given daily, and her prothrombin level became dangerously low. Her anginal pains persisted and even came whilst she was resting; 12,500 units of heparin were given to her on several occasions when the symptoms were particularly severe. On January 10, 1955, she developed renal hæmorrhage, which was controlled with 40 milligrammes of vitamin K_1, and the anticoagulant treatment was continued. Her anginal pains gradually subsided after six weeks of intensive therapy, and they have now gone altogether. She is still under anticoagulant therapy, the present dosage being 50 milligrammes of "Dindevan" daily. Her prothrombin level is 15% of normal.

Case 26.

Mr. Z, aged seventy-nine years, was first examined on August 6, 1954, with rheumatoid arthritis of the hands and

ment was stopped on March 17, 1955, as he went for a holiday to Sydney.

Case 28.

Mr. BB, aged sixty-five years, was first examined on August 17, 1954. He complained of precordial pain on exercise, of some twelve months' duration. The pain was relieved with amyl nitrite. He was ordered "Peritrate", 10 milligrammes before meals, and "Dindevan", 50 milligrammes and 100 milligrammes on alternate days. His condition became much worse, so that on August 31 "Dindevan" was withdrawn. It was considered that he might have developed a subintimal hæmorrhage under an atheromatous plaque in a coronary artery. He was sent home and ordered complete rest, and given large doses of vasodilators for three weeks. He reported back on September 22, improved, and "Dindevan" was reintroduced in a dosage of 50 milligrammes and 100 milligrammes on on alternate days. The improvement was even more dramatic, and subsequently he has had only a few minor pains. On April 15, 1955, he said: "I can now do a lot of work that I could not do before; I only get a few pains and they are mostly after meals." His average prothrombin level is 30%, and treatment is still continuing.

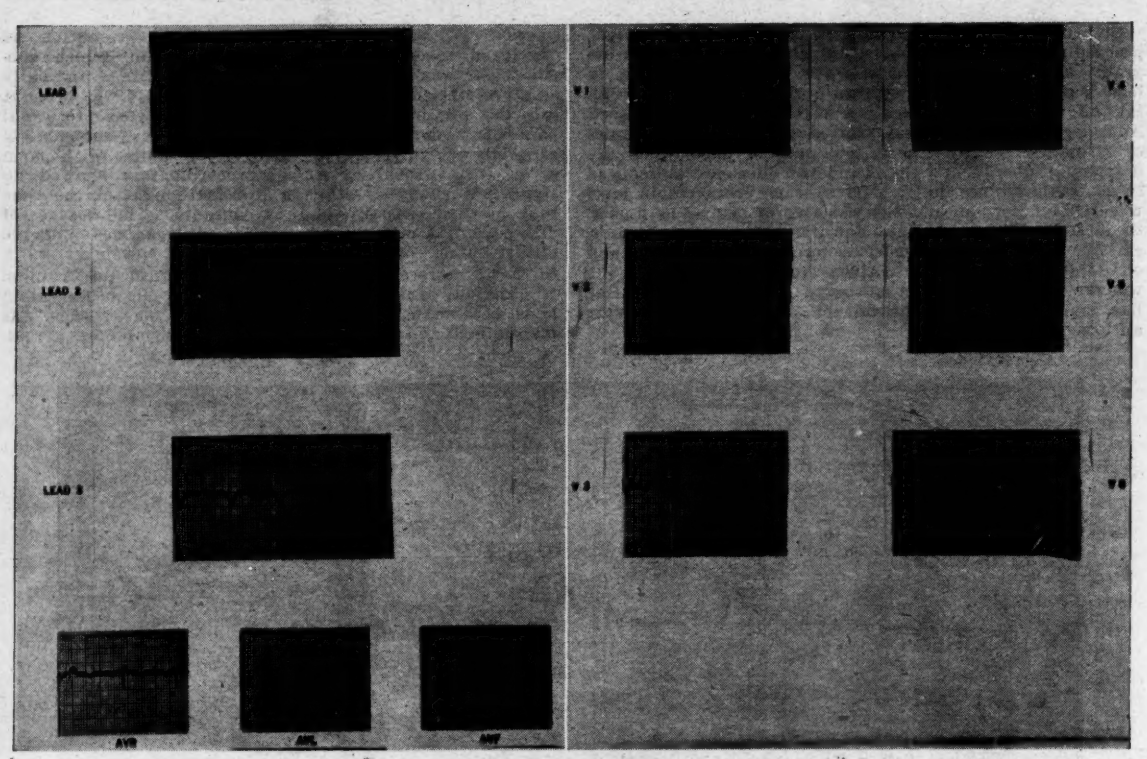

FIGURE VII.
Electrocardiogram in Case 6, taken on February 15, 1955.

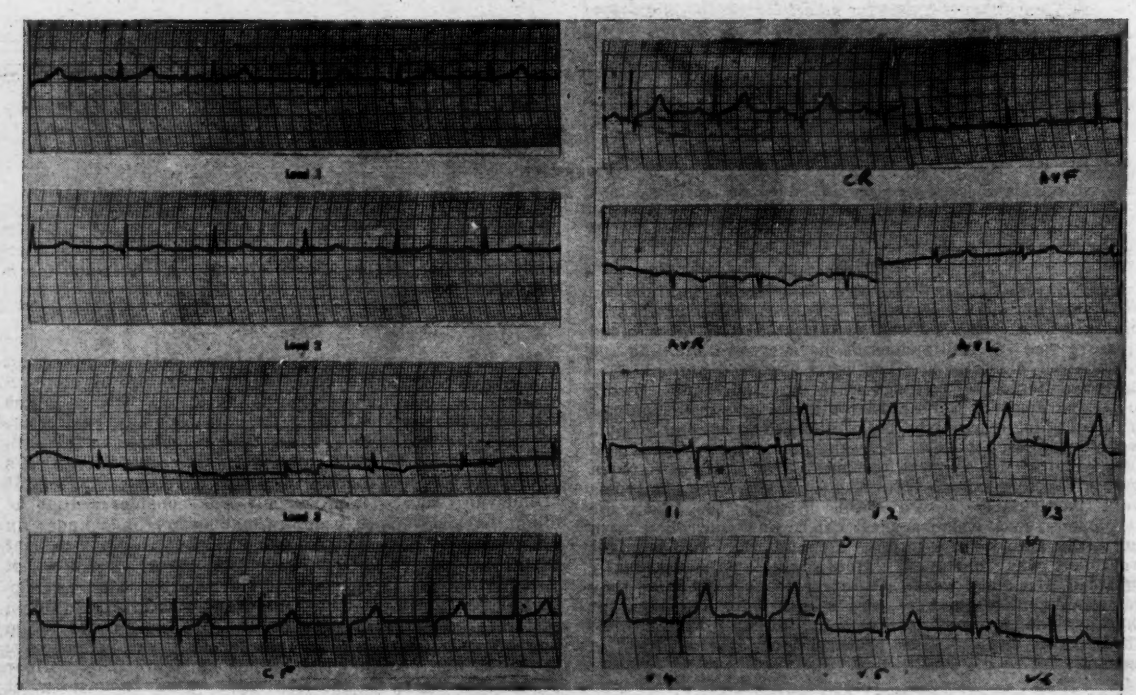

FIGURE VIII.
Electrocardiogram in Case 6 taken on May 8, 1955. The tracing has practically returned to normal.

Case 31.

Mr. EE, aged fifty-nine years, was employed by the writer as night porter from 1949 to 1951. He was suffering from hypertension and angina of effort, and he voluntary gave up work to retire. His blood pressure was 200 millimetres of mercury, systolic, and 110 millimetres, diastolic, and his radial arteries were thickened. He resumed work in 1953 as a rigger, and followed this calling until the time of his malady on November 20. He felt a peculiar sensation in his right hand, which was gradually extended to the right side of his body, and he eventually lost the use of his right upper and lower limbs. His speech became difficult and thick. He reported at the surgery twenty-four hours later and he was given amyl nitrite to inhale; a few seconds later some movement returned to his right upper and lower limbs; indicating arterial spasm as well as thrombosis. Anticoagulant therapy was started immediately, 12,500 units of heparin being given twice daily for three weeks. Slowly the hemiplegia recovered, but there was still some loss of function in the right arm and leg.

An electrocardiogram was taken in 1952, shortly after his retirement, and this showed no significant changes. On December 24, 1953, a second electrocardiogram was taken; this showed inverted *T* waves in leads I, II and III, indicating an old coronary infarct. Anticoagulant treatment was started in a dosage of 50 milligrammes daily. He has subsequently improved, and is now able to drive a small three-wheeled car. He is still receiving anticoagulant treatment; his average prothrombin level is 30%. This patient has had no anginal pain for some years.

Case 33.

Mr. GG, aged sixty-eight years, was first examined on July 13, 1954. He complained of severe precordial pain extending down his arms on exercise. His blood pressure was 210 millimetres of mercury, systolic, and 90 millimetres, diastolic. He had a large amount of sugar and acetone in his urine, and his starving blood sugar content was 200 milligrammes per 100 millilitres. The administration of "Dindevan", 75 milligrammes daily, was started, with relief of the angina. His prothrombin level was 13%. He was referred to hospital for stabilization of his diabetic condition, and he died of an infarction during this period, when the anticoagulants were withdrawn.

Case 37.

Mr. KK, aged forty-five years, was first examined on August 19, 1954. He had severe precordial pain on exertion, of six months' duration. The pain was relieved by amyl nitrite. The patient said that he would have to give up his job as a painter, and that he could not walk more than a few yards without a seizure. His blood pressure was 180 millimetres of mercury, systolic, and 90 millimetres, diastolic, and his heart had a loud systolic bruit at the apex. The electrocardiogram was without significance. A course of "Dindevan" therapy was started, but his condition immediately deteriorated and a subintimal hæmorrhage was suspected. The anticoagulants were withdrawn, and the patient was sent home to rest for three weeks with massive doses of vasodilators. "Dindevan" was later reintroduced, with rapid relief of the anginal pain. The patient now gets pain only with a great deal of exercise, and he can work at his calling without any trouble. He now requires 150 milligrammes of "Dindevan" daily, and his prothrombin level is 40%.

Case 39.

Mr. MM, aged forty-seven years, was first examined on March 2, 1953. He complained of intense pain in the chest, and was white and sweating, and in a state of collapse. A coronary infarct was suspected, and he was given amyl nitrite to inhale and 25,000 units of heparin by injection, with some improvement. It required 0·25 grain of morphine given intravenously fully to relieve him of pain. An electrocardiogram revealed a "T3" infarction.[1] He was referred to Hollywood Hospital, where he received anticoagulant therapy and gradually improved. As soon as he started walking on April 20, 1953, he developed anginal pain, so anticoagulants were reintroduced, with immediate improvement. He has continued to take "Dindevan", and now requires 200 milligrammes daily to retain the prothrombin level of 40%. He is working without difficulty at his calling as engine driver. Recent electrocardiographic tracings show no change of pattern.

[1] The "T3" type of infarction is the posterior type, from thrombosis of the right coronary artery on the circumflex branch of the left (Price, 1946).

Discussion.

The use of anticoagulants has been advocated as a preventive against cardiac infarction. Papp and Smith (1951) noted that Wood (1950) advocated their use in the treatment of patients who have angina of rest, and they themselves make the following statement:

> To these cases can be added patients who have increasingly severe angina of effort of less than a fortnight's duration, for in our experience many of these have either already sustained cardial infarction or are in danger of it.

Hunter and Walker (1954), in discussing the control of the coumarin type of drugs, make the following statement:

> For these reasons it is likely that large scale outpatient treatment will have to be considered very seriously . . . but its well known risk of hæmorrhage makes it more difficult to apply to out-patients.

Vitamin K_1 used correctly provides a safe method of controlling threatened and actual hæmorrhage. Its effect is immediate, and it can be given orally or by injection.

The writer used a modification of Toohey's method for ambulatory patients. The patients themselves had to take the drug if they were notified or if hæmorrhage was apparent. All had to report immediately if any danger of hæmorrhage became manifest after they had taken the appropriate dose of vitamin K_1. By these means hæmorrhage was prevented in the overwhelming majority of cases.

Four elderly subjects out of 134, who were not alert enough either in responding to a summons or in reporting minor hæmorrhage, "slipped through" the regulation screen and had fairly severe hæmorrhages. The prothrombin level of the two patients who died was not below the critical level, and their deaths probably had nothing to do with the administration of "Dindevan". It must be realized that only patients with the most advanced arteriosclerosis and atherosclerosis were treated, and the death of some of them over a two-year period was inevitable.

In an exhaustive analysis of the possibilities of subintimal hæmorrhage, R. A. B. Drury (1954) concluded that hæmorrhage resulted from rupture of the intima by atheromatous necrosis. He made the following statements:

> Even when a massive internal hæmatoma resulted from replacement of the contents of a large atheromatous plaque by blood from the lumen of the artery through an intimal rupture, the degree of occlusion was not greatly increased.
>
> Coronary artery atheroma and thrombosis are the main factors in coronary occlusion, intimal hæmorrhage is a common incident of minor importance which does not contraindicate the use of anticoagulants in the treatment of coronary occlusion.

Two possible subintimal hæmorrhages occurred in the writer's series; neither patient was very severely affected, the condition amounting to temporary deterioration followed by dramatic improvement.

Quick's one-stage prothrombin test is purely empirical and not a measure of prothrombin level; it is a measure of Factor VII, which is lowered by the coumarin drugs. According to Hudson (1954), the test, if carried out properly, "provides a reliable guide to therapy. This is borne out by results. Nearly 170 patients have received courses of therapy with only one hæmorrhage, and this accident was anticipated by the test." The writer's experience agrees with this. Normal clotting times must be taken daily for controls, and the thromboplastin must be carefully standardized and refrigerated when not in use.

Blood specimens should be tested as soon as possible after they are taken. A correct ratio of blood and potassium oxalates is essential.

Summary.

Of the 43 patients, 29 were males and 14 females. Of the patients who sustained actual coronary infarcts, 13 were males and four females.

Constant laboratory control is absolutely essential. The dangers of anticoagulants are probably overrated, although they are not without risk. Peptic ulcer was the main danger in this series.

The danger of not taking these drugs in diseases of the coronary arteries is much greater than the danger of taking them.

The relief of symptoms of angina seems greater than one would expect from inhibition of thrombus formation.

The life of the patients becomes infinitely more bearable. They are able to work and to enjoy things denied them for months and even years before.

The impression received is one of very profound metabolic changes. For these patients, no longer is it "digitalis and rest", but "'Dindevan' and life".

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Price, F. W., editor (1946), "A Textbook of the Practice of Medicine, by Various Authors", 7th Edition, Oxford, 1060.

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Wood, P. (1950), "Diseases of the Heart and Circulation".

Addendum.

Since this article was completed, a patient with atherosclerosis who had never had a cardiac or cerebral catastrophe, and who was taking a prophylactic dose of 50 milligrammes of "Dindevan" daily and had a prothrombin level of 30%, developed a coronary infarct and subsequently died with a hemiplegia two weeks later.

Reviews.

Tumours of Lymphoid Tissue, by George Lumb, M.D., with a foreword by Stanford Cade, K.B.E., C.B., D.Sc., F.R.C.S., M.R.C.P., F.F.R.; 1954. Edinburgh and London: E. and S. Livingstone, Limited. 10" × 7", pp. 212, with 195 illustrations. Price: 37s. 6d.

This amply and generally well illustrated book is based on the clinical and pathological analysis of over 400 cases of tumours of lymphoid tissue, with emphasis on the pathology. For a better understanding of these tumours the author starts with a chapter on the normal structure, function and significance of lymphoid tissue. This is followed by a short historical survey, which could well have been more elaborate. In the third chapter, dealing with terminology and classification, it is pleasant to note that the author takes exception to the loose application of the term "reticulosis". He brings this term back to its real meaning as a general pathological one without specific significance. His classification is acceptable and has the advantage of simplicity, but it is to be regretted that the term "reticular lymphoma" has been introduced for Hodgkin's paragranuloma, adding to the already existing confusion in terminology. The different conditions (follicular lymphoma, lymphosarcoma, reticular lymphoma, Hodgkin's disease, reticulum cell sarcoma, anaplastic sarcoma of lymphoid tissue) are dealt with clearly and simply in separate chapters, and it is helpful to the less initiated that the commoner synonyms are mentioned under the main headings. A long chapter deals with the problems of diagnosis, and it is here that some disappointment is felt, as this chapter seems to give too much for the beginner and too little for the more experienced. It is also strange to find that some comparatively rare conditions, like torulosis for instance, are dealt with at length, while a discussion on lymphoepithelioma is lacking. Probably the author is less to be blamed than the subject matter itself. It is felt that no book or article, however well written or illustrated it may be, can replace in this particular field the experience gained under the personal guidance of a good teacher. For the same reasons the more experienced pathologist will find little in this book that will help him with diagnosing his difficult cases. A chapter on the effects of therapy on primary tumours of lymphoid tissue precedes the general conclusions. A last chapter, more or less an addendum, gives short illustrative cases of the conditions previously dealt with. An extensive bibliography and a carefully prepared index conclude the book. This book can without reserve be recommended to all interested clinicians and post-graduate students as an excellent guide into a difficult subject on which much confusion exists. The author must be complimented for the clarity and simplicity with which he makes extensive information available within a book of this size.

Notes on Books, Current Journals and New Appliances.

Alfred Hospital Clinical Reports, Volume V; 1955. Melbourne: Published by the Alfred Hospital. 10" × 6", pp. 132, with many illustrations.

The fifth volume of the *Alfred Hospital Clinical Reports*, published in 1955, contains much useful clinical material prepared by the medical staff of the Alfred Hospital, Melbourne. Two articles review experience at the hospital in the period 1944-1953 in the management of carcinoma of the large bowel: James Guest considers 360 cases of carcinoma of the colon, and Graeme Grove 239 cases of carcinoma of the rectum and anus. M. Hamilton contributes two articles, one on carbohydrate tolerance of patients with peripheral vascular disease and one on the diuretic response of œdematous patients to a water load. A. J. Barnett discusses thrombophlebitis and carcinoma. Roderick Andrew analyses the results of 434 gastroscopic examinations. K. C. Bradley describes the carpal tunnel syndrome. Kennedy Burnside reviews 306 prostatectomies performed at the hospital between 1951 and 1953. John Williams contributes some remarks on syphilis in psychiatric practice. T. E. Lowe writes on bifid cardiac apex, a rare congenital anomaly. Olga M. Garsen discusses the macrocytic anæmias. Case reports on gout, on "retrocedent gout" and on endometriosis of the small bowel are contributed respectively by I. K. Buckley, J. S. Pettit and N. A. Davis. An editorial note on Prince Alfred (the man) is timely and acceptably written.

Books Received.

[The mention of a book in this column does not imply that no review will appear in a subsequent issue.]

"Management of Pain in Cancer", by Reuben C. Balagot, M.D., J. W. J. Carpender, M.D., E. G. Gross, Ph.D., M.D., Max S. Sadove, M.D., Henry Schwarz II, M.D., Oscar Sugar, Ph.D., M.D., Samuel G. Taylor III, M.D., and V. Richard Zarling, M.D. Edited by M. J. Schiffrin; 1956. Chicago: The Year Book Publishers, Incorporated. 7" × 4½", pp. 245, with illustrations. Price: $4.50.

Intended as a guide for the family physician.

"The Year Book of Radiology (1955-1956 Year Book Series)", edited by John Floyd Holt, M.D., and Fred Jenner Hodges, M.D.; 1955. Chicago: The Year Book Publishers, Incorporated. 9" × 6", pp. 413, with many illustrations. Price: 9.00.

One of the Practical Medicine Series of Year Books.

"Modern Nutrition in Health and Disease: Dietotherapy", edited by Michael G. Wohl, M.D., and Robert S. Goodhart, M.D., with 55 contributors; 1955. Philadelphia: Lea and Febiger. Sydney: Angus and Robertson, Limited. 9" × 6¼", pp. 1062, with 210 illustrations. Price: £10 3s. 6d.

The object of the book is "to present an authoritative and up-to-date discussion of every aspect of nutrition".

The Medical Journal of Australia

SATURDAY, APRIL 14, 1956.

All articles submitted for publication in this journal should be typed with double or treble spacing. Carbon copies should not be sent. Authors are requested to avoid the use of abbreviations and not to underline either words of phrases.

References to articles and books should be carefully checked. In a reference the following information should be given: surname of author, initials of author, year, full title of article, name of journal, volume, number of first page of the article. The abbreviations used for the titles of journals are those adopted by the Quarterly Cumulative Index Medicus. If a reference is made to an abstract of a paper, the name of the original journal, together with that of the journal in which the abstract has appeared, should be given with full date in each instance.

Authors who are not accustomed to preparing drawings or photographic prints for reproduction are invited to seek the advice of the Editor.

SCIENTIFIC WRITING.

THE primary purpose of writing is so obvious that we would hesitate to mention it if it did not seem to be often forgotten. It is simply to convey to the reader the thoughts of the writer. Good writing achieves this as easily and as pleasantly as the subject matter permits. These rules fairly applied know no exceptions, although style and detailed expression vary widely. The language of the philosopher (for example, Whitehead or Niebuhr in the modern world) often baffles the ordinary reader, but the true difficulty is more likely to be in grasping the profound ideas than in following the words; and even here the master of the language (C. S. Lewis is an example) may invest deep and subtle thought with charm and lucidity. Moreover, the intention and skill of the writer must be taken into account. The obscurity of T. S. Eliot and the scintillating word play of Christopher Fry are as deliberate and appropriate to their originator's intentions as the cold precision of a Euclidean proposition. The language proper to the Posthumous Papers of the Pickwick Club differs inevitably from that of "Macbeth" or that of "The Wind in the Willows", but in all it is happy. Winston Churchill stirred the hearts and steeled the wills of the people of Britain with swelling studied prose, but its grandeur would have ill fitted the Fireside Chats of his great contemporary Franklin D. Roosevelt. Oratory, conversation, philosophy, escapist fiction, poetry that explores the deep, gay verse that dances on the surface, all take their own proper forms; but all are good writing (or speech) only in so far as they provide a faithful link between one mind and another.

It is no different with scientific writing. Usually the scientific worker is ready to write only when his ideas are clear and formed in his own mind. Then he must convey them to others as effectively as possible. This may be difficult and often quite legitimately requires that his readers be already informed on the subject. But it will still be done best if the author keeps as far as possible to the same language as has been drawn on by Robert Louis Stevenson, or John Bunyan, or P. G. Wodehouse. He may need some new and specialized words, some phrases whose meaning is only for the elect; but he does not need an entirely new style. This, on the surface, sounds like yet another obvious statement, but many authors of scientific papers think otherwise, or write as if they do. An Oxford zoologist, John R. Baker,[1] has pointed out that there would be no disadvantage in the adoption of a "scientific style" if an improved version of our language had been invented for scientific papers. However, this is not so. The language of the type of scientific writing under criticism is in fact inferior, lacking the directness and clarity of the best non-scientific writing. It has many faults, but we may with profit examine three emphasized by Baker—grammatical errors, grandiloquence and German construction.

Grammar, unfortunately, seems to have become unpopular as a subject in its own right. Probably the grammarians (or at any rate the pedants) have been largely to blame; but pedantic usages have been shed from modern grammar, and the baby should not be thrown out with the bathwater. The important point is that, as Baker states, grammatical errors in scientific papers sometimes make it impossible to be sure what a sentence is intended to mean; or they make the sentence distracting or confusing. Either situation is wrong for a scientific paper, and the remedy is obvious for anyone with enough intelligence to be contributing to a scientific journal. If such a writer wishes to use statistical analysis in his paper, he will either make a study of statistical method or seek expert advice; if he neglects this (as only the foolish few do), his paper has a poor chance of seeing print. The elements of grammar can be grasped by most people of reasonable intelligence in less time than the elements of statistics.

Grandiloquence presents a subtler problem and a greater menace, because it seems to have a fatal fascination for those who admire their own literary ability and for those who pride themselves on their scientific approach. Both groups tend to be proud parents, alert to guard their brain children against editorial attack. Baker suggests that grandiloquence derives from the time when doctors used many Latin words, and adds: ". . . indeed these errors are much more common in medical and biological than in chemical and physical writings." The survival of many Latin phrases is hard to justify when there is a perfectly good English equivalent (for example, *"vide supra"* for "see above"); but apart from being unintelligible to many

[1] *Nature*, November 5, 1955.

students and graduates in medicine and science, who are no longer required to know Latin, these phrases are harmless enough. The real objection is to the use of the long word and the ponderous phrase to express a simple idea. Why should an author write "there was considerable reduction in the dimensions of the spleen" when he means "the spleen was much smaller"? Or "it occupies a juxta-nuclear position" instead of "it is near the nucleus"? Such writing cannot be justified, although it may sound more grand to the author or repel the vulgar interest of the uninitiated. It springs mostly from intellectual snobbery and should go the way of the old-fashioned prescription with its illegible Latin and mystic symbols. So, too, should some of the companions of grandiloquence mentioned by Baker: genteelisms ("sacrificed" for killed, "babe" for baby), archaisms ("save" for "except", "oft" for "often") and "vogue" words ("following" for "after").

The third of Baker's ungainly trilogy is what he calls the German construction, the building up of complex adjectival phrases. A simple example is "iron containing globules", which means "globules containing iron". This construction is not objectionable in its simple forms, especially if a hyphen can be introduced without offence ("iron-containing globules"), and it can provide welcome brevity in a title or heading. Even then it needs to be kept under strict control. A good exercise, to remind ourselves that it is not a normal English construction, is to use it in an everyday phrase; a "tea-containing cup" would in most circles be considered rather an eccentric way of describing a cup containing tea. In its more elaborate forms the construction becomes intolerable, and even the addition of hyphens does not help much. Baker quotes some remarkable genuine examples: "a methylene blue stained preparation of rabbit ear skin"; "the use of acidified (by HNO_3) or alkalized (by ammonia) solutions of silver"; "adenosine triphosphate activated actomyosin contraction". Baker suggests that this construction has been introduced largely by American scientists of German descent. Natural enough in German, it is artificial in English, and can be confusing as well as ugly. We need not reject it when, in simple form, it is clear and makes for brevity. In its more complex forms it needs ruthless suppression.

One last thought of Baker's should be mentioned, as it brings a cheering note to a sombre theme. He points out that some authors, having written the "scientific" part of their papers, turn to more general remarks and suddenly change their style; they reveal that they can write normal clear English when they have escaped from the tyranny of the "scientific style". This is reassuring and indicates that much of the poor writing in scientific papers is due not to illiteracy or pomposity, but to a kind of spell. The following recipe for a counter-spell may be found useful: Take a carefully chosen but not necessarily large portion of good non-scientific literature: read well and savour its qualities: add a liberal sprinkling of ideas from such books as Gowers's "Plain Words", Quiller-Couch's "On the Art of Writing" (especially the chapter on "Jargon") and Fowler's "Modern English Usage"; mix well and store in a firm determination not to be bluffed, intimidated or allured by current fashions in "scientific style": take regularly in small amounts, supplemented by a stiff dose when the urge to write comes on.

Current Comment.

APLASTIC ANÆMIA AND INSECTICIDE VAPORIZERS.

The problem of fly control in the United States, combined with active sales promotion methods, has led, during the past five years, to the widespread use of electrical insecticide vaporizers. The principle is the volatilization of substances like benzene hexachloride (lindane) or less commonly dichloro-diphenyl trichloroethane (DDT). The American Medical Association Committee on Pesticides has issued three warnings about these machines[1,2,3] and has advised against their use in living quarters or in places where food is prepared or eaten. Local reactions involve varying degrees of irritation to the eyes and respiratory tract, nausea and vomiting. More serious is the occurrence of aplastic anæmia in a series of persons exposed to lindane. It is difficult to prove the causal connexion in these cases, but presumptive evidence is accumulating and is too strong to be ignored. An instance of this was discussed at a clinico-pathological conference, participated in jointly by members of the Departments of Internal Medicine and Pathology of the Washington University School of Medicine.[4] The patient was a sixteen-year-old schoolboy who died of aplastic anæmia, with terminal infections. Five months before admission to hospital, upon his return from a visit to California, he had been told by his family that his skin was pale. However, he felt well until two months before admission to hospital, at which time he complained of weakness, easy fatigability and malaise. One month before his admission, a blood count was as follows: red blood cells 880,000 per cubic millimetre, leucocytes 2700 per cubic millimetre with 89% lymphocytes. The patient was treated with blood transfusion, by which means his red cell count was maintained at a level of from 2,490,000 to 3,120,000 per cubic millimetre; but leucopenia and thrombocytopenia persisted. The bone marrow showed marked depression. After a series of infections and episodes of hæmorrhage, and in spite of treatment, the patient died three months after admission to hospital.

Much of the interest of the clinico-pathological discussion centred around the cause of this boy's illness. There was no history of drug ingestion, bleeding manifestations, lymphadenopathy or central nervous symptoms. The patient had worked as a farm helper for two years and on several occasions he had been exposed to insecticides, among which were DDT, chlordane and lindane. During the summer before his illness, there was one period when the boy sprayed a large group of cattle with a mixture that contained both DDT and lindane. He used it for about half a day during the morning, then had to leave his work for about twenty-four hours. During this period he stated that he was weak, became nauseated and then vomited. According to Dr. Robert E. Shank[5] these symptoms might occur with acute toxicity due to lindane. It was not until two months later that the boy was noticed to be pale and it was even later when bone marrow failure was noted. Dr. Shank said that both DDT and lindane (benzene hexachloride) have been judged to be implicated in the production of thrombocytopenia and agranulocytosis and in the decrease of red blood cell formation. Lindane seems particularly culpable in this regard. He went on to say: "It would be well to point out to physicians that there are electrical vaporizers on the market which heat crystals of lindane and chlordane to provide a continuous or intermittent mist of these chemicals. These are commercially advertised as effective home or farm insecticides. It should be obvious that such devices constitute a serious health menace and in my opinion should be taken off the market."

[1] *J.A.M.A.* (1952), 149: 367.
[2] *J.A.M.A.* (1953), 152: 1232.
[3] *J.A.M.A.* (1954), 156: 607.
[4] *Am. J. Med.*, August, 1955.
[5] *Ibidem.*

As with all bone marrow poisons, individual susceptibility plays a large part in cases of lindane poisoning. A commentator writing in the *British Medical Journal*[1] observes that whether or not the use of these devices presents a real hazard to the majority of healthy people, the hypersensitive minority are clearly going to suffer if these electrical vaporizers continue to be sold. What is more, the concentration of insecticide produced in the air is probably ineffective. Far more effective and less dangerous methods of insect control are available.

THE ARTIFICIAL KIDNEY.

ACUTE temporary renal failure may occur after several severe assaults to the human physiology, including severe burns, ascending renal infection, peritonitis, eclampsia, abortion, crystalluria, renal angiography, acute urinary obstruction, spontaneous massive intravascular hæmolysis, blood transfusion incompatibility and severe shock. The Ellis type I, or acute nephritis, is the commonest cause of temporary acute renal failure. The cause of death in acute renal failure is uncertain, but it is probably associated with a disturbance in electrolyte metabolism, especially that of potassium. Irreversible changes in the kidney are common, but acute changes are not usually so severe as to render partial recovery of renal function impossible. Frequently, the patient will recover providing that death can be averted until kidney function is resumed. The problem is, then, to tide the patient over a period during which there occur progressive accumulation of toxic waste products, a profound electrolyte dyscrasia, and a common accompanying general disturbance in all body tissue. Masterly inactivity is sufficient in many cases. In others, in which the condition is more severe, the institution of the Bull regime or of other similar measures, by maintaining basic fluid requirements and providing essential calories and electrolytes, will keep alive patients in whom the toxæmic state would be fatal without treatment, but is not otherwise maintained for any great length of time. The artificial kidney was devised to provide the patient with the means of excreting toxic waste products and of maintaining electrolyte balance when kidney function is absent, when it shows no sign of an early recovery and when the general condition is such that death would otherwise supervene. The use of the artificial kidney is technically difficult, and unceasing vigilance is required by both physicians and laboratory technicians. There are very few centres in which the use of such apparatus is practicable, and reports of the results obtained are usually those of a single case.

N. Alwall *et alii*[2] have recently published the results obtained in the treatment by dialysis of 56 patients with acute renal failure admitted to the University Renal Clinic, Lund, Sweden. Patients were treated by the artificial kidney only when it seemed likely that death would otherwise supervene. In addition to the usual clinical and laboratory investigations the authors lay some stress upon the value of regular radiological assessment both of kidney size and of the fluid state of the lungs during treatment by the artificial kidney. When dialysis was carried out, the patients were already in poor physical condition, soporous-comatose, frequently with hæmorrhagic diathesis and often with purulent bronchitis. The longest period of severe oliguria with subsequent survival was forty days, and in this case four dialysis treatments were required. The patient, like several others with tubular nephritis, developed polyarthritis and pyelonephritis, but eventual recovery to a surprising level of renal efficiency took place.

The whole series included 15 patients with acute glomerular nephritis. Of these six survived for periods of from six months to two years, and several were still alive and well with moderately efficient renal function at the time of the reporting of the results. In 15 cases, the cause of renal failure was exacerbated chronic glomerular nephritis, and all the patients died. From these results the authors conclude that the survival rate in patients with acute nephritis might have been improved if conservative treatment had begun earlier. From the deaths of all the chronic nephritis patients they do not conclude that the artificial kidney has no place in the treatment of chronic glomerular nephritis. Of the remaining 26 patients, 10 were suffering primarily with acute abdominal conditions, and there were four deaths. Eight patients were suffering from obstetrical or gynæcological disease, and two died. Two patients with acute renal failure after renal angiography, and one man with post-traumatic fat embolism died. Three patients suffering from acute chemical intoxication, and two patients with gastro-enteritis survived. Thus from the total of 26 patients who seemed unlikely to survive there were 17 alive and recovered, six died from the primary disease, and renal failure was the cause of death in three subjects.

From both the series discussed there are an appreciable number of survivors. The method of artificial dialysis was used only in the most severely ill patients, and more than half of them made at least some sort of recovery. A much larger series with comparative controls would be needed to prove the efficiency of the artificial kidney. In the meantime the results obtained in this Swedish survey are very encouraging.

[1] *Brit. Med. J.*, May 14, 1955.
[2] *Acta med. scandinav.*, November 30 and December 7, 1955.

THE THERMAL DESTRUCTION OF VITAMIN B_1 IN FOODS.

DR. K. T. H. FARRER, of the Research Laboratories, Kraft Foods, Limited, Melbourne, has recently published in Volume VI of *Advances in Food Research*, New York, an article of 55 pages devoted to the diminution in various foodstuffs of vitamin B_1, the original anti-beriberi factor, also called aneurin or thiamine. His article is entitled "The Thermal Destruction of Vitamin B_1 in Foods". The voluminous literature on this subject is surveyed and Farrer has included the results of his own extensive investigations on the same topic. The decay, or conversely the retention, of vitamin B_1, lends itself to study by the precise methods of physical chemistry, for if bacterial and enzymatic activities are excluded, there are just two variables, time and temperature, and the kinetic approach by the Arrhenius equation can be successfully undertaken. In frozen food the thermal disintegration is negligibly small, but what is frequently forgotten is that there is some bacterial and enzymatic activity still operating, and this can act in two ways, the destruction of vitamin B_1, or its synthesis, and the net result is difficult to assess. The rates of thermal destruction vary very widely according to the immediate environment of the vitamin, moisture, hydrogen ion concentration, electrolyte and non-electrolyte systems, presence or absence of oxygen and the like, but if these are stable then kinetic equations can be used to describe and predict the temperature time loss. The researches which Farrer expounds and to which he has liberally contributed may not appear to affect medical practice directly; but as a faulty supply of vitamin B_1 is the most frequent vitamin deficiency in Australia, and as carbohydrate utilization is dependent on adequate amounts of this vitamin, the results of these investigations are really of immediate interest in the study of nutrition and health. Out of the large assembly of useful facts disclosed a few may be singled out for comment. In the baking of bread about 20% of the vitamin B_1 is lost, more in the crust than in the crumb as we might expect from the different temperatures. Again high extraction bread, in other words true brown bread, shows an augmented deterioration; Dr. Farrer suggests that this might arise from the higher mineral content in the pericarp of the wheat. Pasteurizing and spray drying of milk, according to one investigator, give the lowest loss, about 10%, roller drying comes next with 15%, whilst condensing gives 40%. Farrer has shown that in the processing of cheese no loss of this vitamin occurs. Different observers have given different figures for vitamin B_1 destruction in cooking, but

Farrer points out that time and temperature conditions were not always stated nor was the chemical environment. He believes that all typical vegetable foods give fairly consistent figures. Canning, processing, dehydration and freezing of all sorts of foodstuffs are discussed, also preparation for the table. The three great aims of food preservation are first to convert a discontinuous seasonal supply into a continuous, secondly to ensure that a country which has a surplus of any foodstuff may be able to export it to regions where the amount is inadequate, and thirdly to reduce waste. In cooking, both institutional and domestic, the results of these analyses ought to be of considerable service. Farrer deals only with human foods; some veterinary research institute ought to take up the subject of all vitamin losses in animal fodders, for milk and meat are directly concerned.

POVERTY IN A PROVINCE AND THE FRENCH REVOLUTION.

Revolutions are almost as old as the history of mankind, and though they may differ in detail, it is safe to say that their effects upon "the common man" do not greatly alter. As Bernard Shaw has said, "Revolutions have never lightened the burden of tyranny: they have only shifted it to another shoulder"; the shoulder usually belongs to someone who is least able to bear the added burden. These remarks are prompted by an article by A. Plichet[1] entitled *"Misère des hôpitaux en Province sous le Directoire"*, and based on an account by P. David of the results of his researches into the archives of La Rochelle, a port on the Atlantic coast of France, during the Directory. (The Directory replaced the National Convention on October 27, 1795, and made an attempt to occupy the stage for four years. It quickly brought discredit on itself by its *coups d'état*, its shocking financial mismanagement which brought about wild inflation, its religious persecutions and its war-like policy.) David is concerned with the life of the people in the town, with its municipal affairs and with its hospitals during this period.

In 1796 France was in the grip of a first-class financial crisis. It is not necessary to go into details of why this should have been so; it is sufficient to remember that the Bastille had fallen seven years before, and to consider the ruinous wars in which the country was involved. As is the usual way in financial depressions, the Government issued paper money, which depreciated in value, and to make good the deficit the Government found itself obliged to issue more; and so the spiral went on and up. In 1796 there were 600 million notes in circulation. In Paris these notes were accepted by business men because they were immediately changeable. In La Rochelle they were used when it was impossible to avoid doing so, or when it was profitable. In the country, where there was no chance of changing notes, they were not accepted. The situation was one of financial chaos. Public transport and the mails ceased to function for want of money to purchase fodder. The municipal employees demanded their wages, which had not been paid for three months; they were given two months' wages in paper money, doubled, and one month's wages in cash. The workmen at the arsenal, who had previously been paid in cash, were transferred to paper money; a day's wage was 600 paper pounds.[2] The hospital had not a penny on hand. In a gaol, the prisoners had not even straw to lie on. In December, an order was issued for money to alleviate the widespread misery at the workhouse, but the paymaster-general was unable to meet it. Some of the vital statistics for the year IV are revealing. (Year IV extended from September 23, 1795, to August 18, 1796. The French Republican calendar was substituted for the Gregorian calendar during the Revolution, with the object of striking a blow at the clergy, and of abolishing all Christian associations. It was in use from September 22, 1793, and was officially discontinued on January 1, 1806.) La Rochelle had 18,000 inhabitants at that time, and there were 1157 deaths, distributed as follows: 432 in the civilian population, 39 at the hospital, 382 in the military hospitals, 57 among prisoners of war. Of the 591 babies born in that year, 299 died; of the 81 babies born at the hospital, 70 died, because the lack of money made it impossible to obtain wet-nurses for them. In his decadal report to the minister, the district commissioner wrote as follows: "I have not dared to mention to you that house of suffering, the general hospital, which receives no help; it is a heart-breaking situation." The workhouse and the military hospital were in the same position. The military hospital was unable to lend medical supplies; for the care and feeding of its many sick and wounded it had only 200 pounds per month in cash. In October, 1796, the Government restored to the hospitals the property that had been confiscated as national property. The amount of revenue from this property that was handed over by the Administration of National Property confirmed the opinion of Exchassériau, a member of the *Cinq-Cents*, that the administration had been faulty. The hospital board wrote protesting that the amount due was much greater, that the records had not been put in order since they were taken over by the receiver, and that the services of an expert were required. Steps were immediately taken to compensate, by the national property not yet sold, for the hospital property that had been sold. In 1797 a law was passed which set up administrative commissions for hospitals and relief committees. The responsibility fell upon the members of the Benevolent Society, and with their meagre resources (gifts, the right to one penny in the pound on theatre tickets, and one-third of the potatoes planted on the fortifications of the town) they did their best to alleviate the all-too-prevalent distress. At the end of 1797 the food position in La Rochelle was a little better. Paper money had been finally abolished by a decree of May 21 of that year. The port began to live by privateering. In that year, 28 foreign ships (English, Portuguese or neutral) were captured and taken to La Rochelle. The most important goods in the captured cargoes were foodstuffs from the colonies; then came dried or salt fish, and whale oil. Several ships also carried arms, grain, fresh fruit and even crockery and cloth. The selling price of 20 of the captured ships amounted to 5,788,000 pounds for the cargo and 260,000 pounds for the hulls. It is estimated that the total amount from the sales was about 7,000,000 pounds. The privateers were helping the town to live. But in 1799 financial and economic difficulties made a fresh appearance. The hospital was a heavy burden, whose weight increased from month to month; it took in patients from all the neighbouring districts. In May the district commissioner of La Rochelle reported that the daily cost per person had risen to 45 centimes a day, a large amount for the period. On August 26, 1799, the hospital board announced that it would soon be forced to close the institution. The municipal authorities thereupon provided a sum of money levied on a forced loan. The same situation arose again in September; the hospital board was ordered to get rid of people who did not require care, and the sick who were not indigent. The board replied that it was quite willing to take any measures if the authorities would kindly indicate what measures remained to be taken. In October, General Beaufort and his adjutants gave their month's rations to the hospital, to which deportees from *l'Ile de Ré* were sent. The vital statistics covering the period from August 18 to November 21 give an idea of the public health; there were 118 births (14 foundlings) as against 234 deaths. In December there was a slight outbreak of smallpox, which made things still worse. The district commissioner at the time recorded that the parents who had been courageous enough to have their children inoculated had saved their lives.

Plichet comments that during this period of transition between the Revolution and the Consulate, while an attempt was being made to set France again on her financial feet, the economic situation in the Provinces was probably more disastrous than in Paris; there at least the Government, by using the police and the army, was able to keep the crowds under control. This brief glimpse

[1] *Presse méd.*, January 4, 1956.

[2] "Pound" in this context refers to the old French coin *livre*, of which the value varied; it was in no sense equivalent to the pound as we know it.

of the tragedy brought by a revolution to a provincial town has many counterparts in history; indeed, the same pattern reproduces itself with changes in detail. The preacher in his well-known words sums up the position succinctly: "The thing that hath been, it is that which shall be; and that which is done is that which shall be done: and there is no new thing under the sun."

INVASIVE NATURE OF POLIOMYELITIS.

POLIOMYELITIS is an infective virus disease of great interest to medicine, and one which, like the problem of cancer, has caught the attention and the fears of the public. A recent publication of the World Health Organization was devoted to the epidemiology, clinical aspects, virology and control of the disease and some comment was made in this journal.[1] Progress has been made in the search for a safe immunizing agent, and a form of the Salk vaccine is to be introduced both in this country and in the United Kingdom. As an infective disease poliomyelitis presents many particular problems to the worker in preventive medicine. Outbreaks and epidemics occur like a scattered rash over a wide area. The source of infection is difficult or even impossible either to find or to control, and relatively small numbers of susceptible persons appear to develop the clinical manifestations of the disease. D. J. R. Snow[2] has commented on the spread of new epidemics in previously unaffected communities, the effect of geographical barriers in controlling the dissemination, and the use of the spot maps in assaying the epidemiology of the disease. J. P. Nolan, B. H. Wilmer and J. L. Melnick[3] have studied a particular outbreak of the disease which occurred in a small town in Connecticut. The community was of a high socio-economic level, so that it might be expected that the population would be both susceptible to the disease and amenable to the methods of investigation and prevention. The first five cases of the disease occurred in four children attending a nursery school, and in one of the parents. The primary source of infection was probably a child with undiagnosed disease from the same school. In the whole outbreak there were 16 cases of poliomyelitis over a period of about eight weeks, representing an attack rate of two per thousand of the population. Six of the patients were adults and these were all parents of at least two small children; five were left with varying degrees of paralysis, and two required treatment in the artificial respirator. In addition 55 people developed illness which could well have been abortive or non-paralytic poliomyelitis. Almost all the patients with actual or suspected poliomyelitis were known contacts with proven cases of the disease. The medical history of each infected family and of each of the nursery school children was taken. Wherever possible, from all these people were collected samples of fæces, rectal swabs and serum. Serum was obtained when practicable by venous puncture on two occasions at an interval of two to three weeks. Rectal swabs were taken on three consecutive days as soon as possible after illness or contact.

The results of complement-fixation tests were positive in 92% of the patients and in 40% of the contacts, including the nursery school children, fully tested. In all, 114 persons were fully investigated, and in 58% virus isolation was made. Of the contacts, 54% were found to be harbouring virus in the gastro-intestinal tract. The titre of complement-fixing antibodies and the recovery of virus varied between the high rate of paralysed patients and the low rate of non-symptomatic contacts. However, even amongst the latter, 25% had high levels of complement-fixing antibodies, and about 40% were excreting the virus. In retrospect, the isolation of virus and the serological studies appeared to be approximately equally accurate in the diagnosis of the disease. It is particularly notable that of the 19 nursery children contacts 12 had laboratory evidence of recent disease, and of the mothers of these children nine also had evidence of infection. The distribution of neutralizing antibodies was predominantly of Type I in the children, but with no particular predominance in the adults. From a comparison of the effectiveness of using rectal swabs and fæcal samples in the isolation of the virus, it is evident that the latter is the more reliable of the two methods. Virus excretion continued for up to eight weeks in one patient and six contacts.

Discussing this outbreak, Nolan, Wilmer and Melnick suggest that the epidemic was limited in extent by the nature of the particular community. Standards of hygiene were very high, and in particular contact was reduced by the wide spacing of homes and the absence of communal mixing, which is a characteristic of more cramped and gregarious societies. In fact the case rate among people actually exposed to the infection was shown by the laboratory investigations to be particularly high. The small children were exposed to the disease in the narrow community of the school and were thus heavily infected. The parents of these children lacked any previous immunity and so fell foul of the disease in high proportion. Here the stream of contact was largely dammed back, and thus the epidemic petered out. However, the investigations reveal the high infectivity of the poliomyelitis virus. If evidence of the virus is to be accepted as evidence of the disease, then it appears that paralysis is not the typical response to the infection, but a characteristic only of its more severe forms in which damage to the anterior horn cells occurs. The problem of prevention lies not in the isolation of proven cases, but in the early detection and control of those highly infective contacts who wander at large and innocently disseminate the disease to the rest of the community.

[1] M. J. AUSTRALIA, December 24, 1955.
[2] M. J. AUSTRALIA, in press.
[3] *New England J. Med.*, December 1, 1955.

"SCOTTISH MEDICAL JOURNAL."

THE first number of the *Scottish Medical Journal* has made its appearance. It is described as the journal of the Royal Medico-Chirurgical Society of Glasgow and of the Edinburgh Medico-Chirurgical and Obstetrical Societies. It is about twelve months ago since we mourned in these columns the extinction of the *Edinburgh Medical Journal* which had been in existence since 1805. The death of the *Edinburgh Medical Journal* was described in its last number as a "geriatric casualty of the changed conditions in which we live". Financial considerations lay at the back of that unfortunate happening. The *Scottish Medical Journal* is described as incorporating the *Edinburgh Medical Journal* founded in 1805 and the *Glasgow Medical Journal* founded in 1828. The *Glasgow Medical Journal* has had a continuous existence and the last issue received bore the date December, 1955. The *Edinburgh Medical Journal* has been in retirement for twelve months. All who are interested in medical journals will rejoice that one journal now appears for the whole of Scotland. The Editor of the new journal is Alexander Brown and the Assistant Editors are Alastair R. Currie and James Innes. There is a board of management of twelve persons with a secretary and treasurer and there is also an editorial panel consisting of forty-four persons many of whom are well known in the world of medical literature. In an editorial signed by the Chairman and Vice-Chairman, Thomas Anderson and A. Rae Gilchrist, the hopes and desires of the journal are stated. It is hoped that the journal will command the support of the four schools of medicine in Scotland and in turn will inevitably reflect their spirit and enterprise. We understand and sympathize with the editors in their contention that a medical worker in Scotland with an original article for publication should consider first the claims of the *Scottish Medical Journal*. There are in Australia many graduates of Scottish universities and there are also Australians who have graduated in Scottish schools. They will be the first among the many in this country who will welcome the appearance of the *Scottish Medical Journal* and wish it a healthy and prosperous future.

Abstracts from Medical Literature.

PATHOLOGY.

Polyarteritis Nodosa in a Newborn Infant.

J. Elwood (*Arch. Path.*, August, 1955) describes severe lesions, similar to those of *polyarteritis nodosa*, which were found at autopsy in the pulmonary arteries of a newborn infant who had gross cardiac hypertrophy. Minimal lesions were found in the umbilical artery, the umbilical vein and a single vein in the pancreas. Focal chronic inflammation with fibrosis was found in the pancreas and thymus. Changes indistinguishable from early atheroma were present in the coronary arteries. Various ætiological factors are discussed. The combination of pulmonary hypertension of unknown cause with a sensitization due to chronic infection is suggested as a possible cause of the pulmonary arteritis.

The Kidney in Lupus Erythematosus.

J. F. Smith (*J. Path. & Bact.*, July, 1955) describes the histological appearances in the kidneys from ten cases of disseminated *lupus erythematosus* and two of chronic discoid lupus. Hæmatoxyphile bodies and hyaline protein material within tufts are the most important changes, and they are regarded as fundamental. The association of the two findings in the so-called "focal necroses" in glomerular tufts is stressed, and it is suggested that because of this the "necroses" are specific for disseminated *lupus erythematosus*. The hyaline protein material may appear clothing capillary loops, between them, or within capillary lumina; in all these sites it may be associated with hæmatoxyphile bodies. The claim that both the hæmatoxyphile bodies and the hyaline protein material can be explained by the breakdown of nucleoprotein is considered; some support for it is presented, but at present it is not proved. No evidence is found to support the concept that the lesions are a manifestation of allergy, but it is accepted that stimulation of the antibody-forming apparatus occurs in the disease.

The Pathology of Perinatal Distress.

P. Gruenwald (*Arch. Path.*, August, 1955) describes a group of common pathological lesions in stillborn infants. These changes are part of a non-specific reaction to distress either *in utero* or at birth, caused by anoxia, mechanical trauma or other unfavourable influences of the environment. The appearance and occurrence of the component parts of this perinatal distress syndrome are described as shown in 452 autopsies. Apart from aspiration of amniotic sac contents, the lesions are related to three basic types of changes: (i) circulatory disturbances (capillary damage, venous congestion), (ii) parenchymal degeneration, (iii) secondary infection. Some of the changes are identical with those known to occur as "shock lesions". The central nervous system and most of the viscera may be affected. Some of these pathological changes suggest, as has been noted by other investigators on the basis of a variety of evidence, that newborn infants in distress are in a state of shock. The manifestations of the perinatal distress syndrome in premature infants differ qualitatively and quantitatively from those in mature ones. Lesions occurring in both groups are apt to be less severe and less numerous in premature infants. On the other hand, there are common and highly significant changes characteristic of premature infants, notably intraventricular cerebral hæmorrhage and a peculiar form of atelectasis frequently associated with hyaline membranes; the relationship of the latter to perinatal distress is not quite clear. On the basis of the present findings it is suggested that pædiatricians should consider the possibility of treating newborn infants in distress for shock as well as for insufficiency of the heart, liver and adrenal cortex, in addition to providing a supply of oxygen. Clinical observation and laboratory tests should be used to decide on the merits of this suggestion.

Sarcoma Arising in Glioblastoma of the Brain.

I. H. Feigin and S. W. Gross (*Am. J. Path.*, July-August, 1955) describe three cases of primary brain tumour in which the neoplasm was composed of an admixture of dissimilar tissues, both malignant. One component resembled the *glioblastoma multiforme*, the other, a spindle-cell fibrosarcoma. The authors present evidence to suggest that the sarcomatous elements arose by neoplastic change in the very hyperplastic blood vessels regularly seen in the *glioblastoma multiforme*. They suggest that the sarcomatous elements may grow more rapidly than the glioblastomatous tissue, obscuring or obliterating the latter. Some of the primary sarcomata of the brain may have arisen in this fashion.

Neonatal Jaundice with Giant-Cell Transformation of the Hepatic Parenchyma.

H. F. Smetana and F. B. Johnson (*Am. J. Path.*, July-August, 1955) found that the histopathological changes in the liver, most commonly seen in cases of hepatitis in the neonatal period, are replacement of normal liver cells by multinucleated giant liver cells, lack of intercellular bile canaliculi, and absence of bile from the efferent biliary passages and the intestines. Bile is being formed, however, and it accumulates within the giant liver cells and the Kupffer cells. Attribution of this condition to viral hepatitis, occurring in the mother during pregnancy and transmitted to the fœtus, is highly speculative; instead, the clinical picture and the histopathological changes are interpreted as consequences of the failure of development of the intercellular bile canaliculi which normally link the liver cells with the efferent bile passages; the association with malformations of the extrahepatic biliary passages would seem to strengthen this thesis. The cause of the maldevelopment is as yet unknown. Pending final clarification, it is suggested by the authors that this condition be designated as jaundice of the neonatal period with giant-cell transformation of liver cells.

MORPHOLOGY.

Vacuolation in Mast Cells.

G. H. Paff and D. D. Mergenthaler (*Anat. Rec.*, March, 1955) have proved that the mast-cell granules of normal rats are not soluble in water, and that normal mast cells contain numerous vacuoles. The injection of protamine sulphate increases the formation of vacuoles.

Hydrogen Ion Concentration of Fixing Fluids.

B. L. Freeman, E. K. Moyer and A. M. Lassek (*Anat. Rec.*, March, 1955) report on the effect of the hydrogen ion concentration of fixing fluids on the stainability of tissues. They give the results of testing 26 common fixatives in a Beckman Model H2 pH meter; tests were made on freshly prepared fixatives and after periods of one to forty-eight hours; at least three tests were made on each sample. The effect of tissue (liver and spinal cord) on the fixatives was also investigated. It was found that most fixatives were decidedly acid; only seven had an initial pH higher than 5·0, and of these six were neutralized or buffered to raise the pH to this level. Only the formulæ of Hermann, Bouin, Perenyi, Huber and Susa were stable after forty-eight hours, and with tissue added there was no greater difference than 0·1 in the pH. Solutions of Benda, Davenport, Worcester, Zenker and Bodian, and mercuric chloride, changed less than 0·5 in their pH with tissue added. Saturated aqueous mercuric chloride was unique in that its final pH was lower; all other acid solutions became less acid or did not change. Carnoy and Carnoy-Lebrun fluids, although stable without tissue, showed a rise of pH with tissue. Helly, Regaud, Orth and Karpeschenke fluids were unstable, the pH rising gradually. A 1% solution of osmium tetroxide had a wide range of pH. Tissue caused the pH of osmic acid solutions to fall. The pH of unneutralized formalin varied, but usually reached 4·1 in forty-eight hours with tissue; formalin neutralized with calcium carbonate varied widely. A table giving details is provided.

Homologies of Thigh Muscles.

N. S. Kerr (*Anat. Rec.*, March, 1955) points out that although the homologies of the muscles of the hip and thigh between the reptiles and the mammals have been well studied, little recent work has been done on the homologies of these muscles between the various mammals. He has accordingly studied the muscles of the cat and rabbit, which are most commonly used in comparative anatomy, and of the opossum and Rhesus monkey, to include primitive and primate types. The criteria employed are similar innervation, similar origins and insertions, and similar relationships. The basic nomenclature referred to was Coues (1872) for the opossum, Reighard and Jennings

(1935) for the cat, Bensley (1946) for the rabbit, and Howell and Strauss (1933) for the Rhesus monkey. Kerr finds that neither the homology nor the nomenclature of the *gluteus maximus* has been confused. The *caudo-femoralis* of the cat, the short head of the *biceps femoris* of the rabbit, and the *femoro-coccygeus* of the opossum seem to be homologous, and no homologue appears in the Rhesus monkey; when present, this muscle is part of the gluteal complex, and Kerr agrees to adopt Howell's suggestion of calling it the *gluteus longus*. The *tenuissimus* of the cat and the *tensor fasciæ cruris* of the rabbit seem to be homologous; this muscle is occasionally present in the opossum, but absent in the Rhesus monkey; Kerr adopts the name *tenuissimus* for it. The *biceps femoris* is Bensley's "long head of the biceps", and as his "short head" has become the *gluteus longus*, the name *biceps femoris* remains the same for all four animals. The *semitendinosus* and *semimembranosus* have been thoroughly confused. Kerr considers that the *semitendinosus* of the cat and monkey and the *semimembranosus* of the rabbit are homologous; the situation is further confused in the opossum by the presence of the primitive *cruro-coccygeus*, but Kerr concludes that the *semitendinosus* is correctly named in this animal, and that it is necessary only to rename the *semimembranosus* of the rabbit. As regards the *semimembranosus* in the cat and the opossum it is a single muscle, though occasionally with a partly divided head in the cat; in the rabbit and monkey, however, there are two separate homologous muscles, known as the *semitendinosus* and *adductor magnus* in the rabbit, and the *semimembranosus proprius* and *accessorius* in the monkey. Kerr's final decision is to retain *semimembranosus* in the cat and opossum, and the qualifications *proprius* and *accessorius* in the rabbit and monkey. Variations in the adductors render particulate homologizing fruitless, and the group is merely called the *adductor femoris* mass.

Alkaline Phosphatase in Rat Ovaries.

D. H. FORD AND A. HIRSCHMAN (*Anat. Rec.*, March, 1955) have studied the differences in alkaline phosphatase activity in the ovaries of immature and maturing albino rats. They state that mature ovaries have a significantly lower concentration of alkaline phosphatase than do immature ovaries; this is attributed to the increased proportion of luteal and interstitial tissue in the mature ovary. Nevertheless, owing to the larger size of the mature ovary its total production of phosphatase is greater. There are no significant variations in phosphatase activity during the various phases of the œstrus cycle in adult rats.

Reactions of Mammalian Fœtal Cartilage to Injury.

A. HESS (*Anat. Rec.*, March, 1955) reports on the reaction of mammalian fœtal cartilage to injury. The cartilage of the vertebral column of fœtal guinea-pigs was severed *in utero* and the process of regeneration watched. From the second to the fourth day there was degeneration and resorption of the severed stump, and the cells appeared degenerated and pyknotic. On the fifth or sixth day there were signs of regeneration, the perichondrium proliferating and growing over the stump, and new formation of cartilage. There was no attempt by the cartilage cells to degenerate or to form a blastema; this is in contrast to what occurs in amphibia.

Sex Chromosomes, Castration and Life Span.

J. B. HAMILTON AND M. JOHANSSON (*Anat. Rec.*, March, 1955) have studied meal moths in relation to the shorter life span of males as compared to females. In the meal moth the sex chromosomes are similar in males but dissimilar in females (the reverse to what obtains in man). Normal male meal moths were found not to live longer than the females, a finding which disposes of the possibility that homogeneity of sex chromosomes might confer longevity; nor did possession of heterogeneous sex chromosomes render female moths shorter lived than males. Furthermore, castration of male meal moths had no influence in increasing their life span; this suggests that testicular secretion has no influence in reducing life span.

Hæmatopoiesis in the Albino Rat.

P. G. ROOFE, H. BINGHAM AND R. COMER (*Anat. Rec.*, March, 1955) report on the normal hæmatopoietic picture in albino rats. Tables are given showing the cell and platelet counts in peripheral blood and the cell counts in various areas of the spleen, lymph nodes, thymus and bone marrow. The myeloid erythroid ratio was found to be 0·739.

The Relationship of Perivascular Spaces to the Perineuronal and Subarachnoid Spaces in Mammals.

D. H. M. WOOLLAM AND J. W. MILLEN (*J. Anat.*, April, 1955) report on studies of the relationship of the spaces in the outer coverings of cerebral and spinal blood vessels to the perineuronal spaces on the one hand and to the subarachnoid space on the other. In newborn rats colloidal carbon was injected into the subarachnoid space in very small quantities daily for up to three weeks. This has shown that there are two spaces surrounding a blood vessel in the central nervous system. The first is the true perivascular space, communicating with the subarachnoid space but not with the perineuronal spaces. External to this lies an artefact space which communicates with the perineuronal spaces and with the epispinal space of this between the *pia mater* and the surface of the brain and spinal cord, but not with the subarachnoid space. These artefact spaces are the result of shrinkage consequent on fixation and sectioning.

The Neuroglia of the Sensory Ganglia.

J. M. ORTIZ-PICÓN (*Anat. Rec.*, March, 1955) reports that the nerve cells and nerve fibres of the sensory ganglia are enveloped by a system of satellite cells. The subcapsular satellite cells (amphicytes) represent the perisomatic gliocytes and the periaxonic endocapsular gliocytes. Adjacent to the neurites in their extracapsular course through the grey matter, and serially juxtaposed to them, are the periaxonic interstitial gliocytes; there are also elements enveloping the myelinated fibres in the white matter like Schwann cells—the schwannoid gliocytes. All of these elements are comparable with the oligodendroglia of the encephalo-spinal centres and with the Schwann cells of the nerves; they appear to have similar functions.

Sensory Nerves of the Rabbit's Ear.

G. WEDDELL, W. PALLIE AND E. PALMER (*J. Anat.*, April, 1955) commence their studies of the innervation of skin with that of the rabbit's ear, because here there are no encapsulated nerve endings other than those related to hair follicles (which is also the case in the human ear). They confirm that the myelinated sensory nerves to the rabbit's ear are related via the great auricular and lesser occipital nerves to the second and third cervical spinal nerve roots. They estimate that the total number of myelinated and unmyelinated axons entering the rabbit's ear in the form of nerve bundles is no more than 9000, and that the total number of myelinated axons of spinal and cranial origin is no more than 6500. They suggest that the complexity of the arrangement of the nerve fibres in the nerve trunks is hardly likely to be fortuitous, and that it has some significance in the mechanism of cutaneous sensibility.

Cell Degeneration During Normal Ontogenesis.

B. KÄLLÉN (*J. Anat.*, April, 1955) gives a systematic description of cell degeneration during ontogenesis in the brain of the rabbit embryo. He states that there are two main periods in the development of the brain. The early phase extends from the time of formation of the neural tube until the end of the neuromeric phase. At the 13-somite stage the anterior neuropore is still open, and degenerating cells are found around it; they appear to be a remnant of the separation process of the neural tube from the surface ectoderm. At all stages until the eleventh day of gestation dying cells are found in the dorso-median part of the archencephalon, probably representing morphogenetic degeneration related to the formation of the *tela chorioidea ventriculi tertii* and related structures, and of the dorsal raphe in the mesencephalon. Until the twelfth day a distinct centre of dead cells is found ventral, and often rostral, to the optic evaginations, apparently related to the formation of the chiasma system and possibly partly responsible for the ventral shifting of the optic stalk. Laterally, degenerating cells are found in the dorsal part of the fourth and fifth neuromeres and in the rhombencephalon at the level of the ganglia. The second phase follows from the eleventh day of gestation, and includes the stages of migration areas and the later stages of nuclear differentiation; degenerating cells are found scattered all over the brain, with a steep increase at the fourteenth day, mainly in the peripheral parts. This represents histiogenetic degeneration.

British Medical Association News.

MEETING OF THE FEDERAL COUNCIL.

A MEETING of the Federal Council of the British Medical Association in Australia was held at Hadley's Hotel, Hobart, on February 27 to 29, 1956, DR. H. C. COLVILLE, the President, in the chair.

MINUTES.

The minutes of the meeting of the Federal Council of August 18, 19 and 24, 1955, which had been circulated amongst members, were taken as read and signed as correct.

REPRESENTATIVES.

The following representatives of the Branches were present:

New South Wales: Dr. W. F. Simmons, Dr. A. J. Murray, O.B.E., Dr. H. R. R. Grieve and Dr. R. H. Macdonald.

Queensland: Dr. A. E. Lee and Dr. H. W. Horn.

South Australia: Dr. L. R. Mallen and Dr. C. O. F. Rieger.

Tasmania: Dr. J. B. G. Muir and Dr. L. N. Gollan.

Victoria: Dr. H. C. Colville, Dr. Robert Southby and Dr. J. G. Johnson.

Western Australia: Dr. C. W. Anderson and Dr. B. O. Bladen.

The President explained that Dr. Bladen was acting as proxy for Dr. D. M. Clement. It was explained that a letter had been received from the New South Wales Branch, advising of the resignation of Dr. H. R. R. Grieve as at August 23, 1955, and of his reelection as at September 27, 1955.

THE RETIREMENT OF DR. CHARLES BYRNE AND DR. D. E. COPPING.

The President, from the chair, referred to the retirement of Dr. Charles Byrne, of Victoria, and of Dr. D. E. Copping, of Western Australia. He referred to the valuable work done by both Dr. Byrne and Dr. Copping while they were members of the Federal Council. Dr. Byrne had done particularly valuable work for the profession during the opposition by the medical profession to the proposals for a health service made by the Chifley Government. The President's remarks were supported by Dr. A. J. Murray. The Council adopted the following resolution:

> That the Federal Council place on record its appreciation of the valuable services rendered to the Federal Council and to the profession in Australia by Dr. Charles Byrne and Dr. D. E. Copping whilst members of the Federal Council.

DEATHS.

The President referred to the tragic deaths of Dr. Arthur Meehan and Dr. A. R. Murray, of Queensland. Dr. Meehan had occupied a unique place as an orthopædic surgeon in Queensland. He had been held in the highest possible regard by all members of the profession. The death of Dr. Murray, who was much younger than Dr. Meehan, was perhaps on that account more poignant. Letters of condolence had been sent on behalf of the Federal Council to the Queensland Branch, and the Branch President had been asked to convey the sympathy of the Federal Council to the relatives of both members.

The President also referred to the death of Professor E. S. Meyers, which occurred on February 11, 1956. Dr. Meyers had been a member of the Federal Committee from 1929 to 1933, and of the Federal Council from 1933 to 1935. It was resolved that a letter of sympathy should be sent to Mrs. E. S. Meyers.

APPOINTMENT OF OFFICE-BEARERS.

The General Secretary reported that only one nomination had been received for the position of President, that of Dr. H. C. Colville. Dr. Colville thanked the members for his election. He said that he would do his best to justify the confidence of the Federal Council.

Two nominations had been received for the position of Vice-President, that of Dr. Angus Murray and that of Dr. A. E. Lee. A ballot was held and Dr. Angus Murray was elected.

Only one nomination had been received for the position of Honorary Treasurer, that of Dr. W. F. Simmons. Dr. Simmons was declared elected.

ANNUAL REPORT.

The annual report of the Federal Council for the twelve months ended December 31, 1955, was taken as read, received and adopted.

SECRETARIAT.

At its meeting in August, 1955, the Federal Council resolved that the position of Assistant General Secretary to the Federal Council should be advertised in THE MEDICAL JOURNAL OF AUSTRALIA, and that the executive officers should be empowered to make the appointment. The General Secretary reported that Dr. A. McNeil had been appointed Assistant General Secretary to the Federal Council on October 21, 1955.

The Federal Council discussed the provision of more office space for its activities, and the Council resolved to rent a suite of rooms on the second floor of British Medical Association House, 135 Macquarie Street, Sydney, at a rental of £200 *per annum*. The Honorary Treasurer was authorized to purchase the necessary office equipment.

Dr. H. R. R. Grieve referred to the establishment of a whole-time secretariat. He said that the matter had been discussed by the New South Wales Branch, and he moved that the question should be referred to the Branches for their consideration. The motion was seconded by Dr. C. O. F. Rieger. The President asked whether the Federal Council could expect to receive a statement from New South Wales. He said that anything that was done should be done in a coherent manner. The Federal Council resolved to seek the opinion of the Branches on the separation of the offices of the Federal Council and the New South Wales Branch.

FINANCE.

The financial statement of the Federal Council as at February 27, 1956, was presented by Dr. W. F. Simmons, the Honorary Treasurer, and adopted. Dr. Simmons pointed out that at December 31, 1955, there was a credit balance of £4692, and that the anticipated credit balance at December 31, 1956, would be £4211, which represented a decrease in the accumulated funds of £480. Dr. Simmons put before the Federal Council an estimated list of expenses up to December 31, 1956. He had made provision for three meetings at a total of £3500. The expenses of Dr. L. R. Mallen at the General Assembly of the World Medical Association would be in the neighbourhood of £100. Subscriptions to the World Medical Association would total £950. Dr. Simmons pointed out that a capitation fee of 25s. *per annum* was not sufficient to maintain the Federal Council at its present level. In addition the estimated expenditure for the current year did not include any provision for the expenses of a delegate to attend the Annual General Assembly of the World Medical Association. At the present moment the Federal Council had as its delegate Dr. L. R. Mallen. He was, however, a member of the Council of the World Medical Association, and excepting for the cost of his stay during the General Assembly, his travelling expenses were met by the World Medical Association. In effect, he acted as a delegate to the World Medical Association at no real cost to the Federal Council.

Dr. Simmons also presented a statement of the Australasian Medical Congress (British Medical Association) Accumulated Funds Account for the year ended December 31, 1955. The amount standing to the credit of the account was £4142. It was pointed out that the final financial statement of the Ninth Session of the Australasian Medical Congress (British Medical Association), held at Sydney in August, 1955, had not yet been drawn up. It was anticipated that the profits from the session would be in the neighbourhood of £8000.

Dr. Simmons reported on the state of the Federal Council Organization Fund for the year ended December 31, 1955. He pointed out that for the year a sum of £500 had been given to the Repatriation Departmental Medical Officers' Association in connexion with the appeal to the court about salaries. At the present time the amount standing to the credit of the account was £1493.

The report on the Federal Independence Fund of the British Medical Association in Australia for the year ended December 31, 1955, was also made by Dr. Simmons. The fund stood at present at £21,537.

Dr. Simmons pointed out that the Federal Council Entertainment Fund had a credit balance of £257.

Messrs. F. W. Duesbury and Company were elected auditors for the ensuing year at a remuneration to be fixed by the executive officers.

THE HENRY SIMPSON NEWLAND PRIZE FUND IN SURGERY.

Dr. W. F. Simmons made a report on the state of the Henry Simpson Newland Prize Fund in Surgery. At the end of 1955 the fund stood at a total of £1163. This amount included the sum of £124 from Commonwealth Treasury interest received. During the year an award for a joint essay by Dr. F. M. Ramsay and Dr. W. W. Woodward had been made. The amount standing to the credit of the fund at the time of the meeting was £1034.

The Federal Council resolved, on the advice of the sub-committee appointed for the purpose, that the title of the essay for competition in 1958 was: "Factors Influencing the Prognosis in Acute Intestinal Obstruction."

MEDICAL OFFICERS' RELIEF FUND (FEDERAL).

Dr. W. F. Simmons presented a report from the trustees of the Medical Officers' Relief Fund (Federal) for the year ended December 31, 1955. The total assets at December 31, 1955, exclusive of interest owing on loans, amounted to £7454. The assets in the form of Treasury Bonds and cash in the bank had decreased during the year by £59. This was accounted for by amounts paid to four beneficiaries totalling £310. Exchange and bank charges and sundry expenses had accounted for £10. Interest received amounted to £252. The report was received and adopted.

FEDERAL MEDICAL WAR RELIEF FUND.

Dr. W. F. Simmons, on behalf of the trustees of the Federal Medical War Relief Fund, presented a report for the year ended December 31, 1955. The total assets as at December 31, 1955, amounted to £18,371. The assets in cash at bank and Treasury Bonds had decreased during the year by £550. Twelve benefactions had been paid during the year. They were in respect of four claims from New South Wales, five from Victoria, one from Queensland and two from South Australia. In the payment of these claims the sum of £1160 had been expended. The report was adopted.

HONOURS.

The General Secretary reported that he had, on behalf of the Federal Council, offered the congratulations of the Council to Dr. C. G. McDonald, C.B.E., on the honour recently conferred on him by Her Majesty the Queen.

INQUIRIES FROM OVERSEAS ABOUT MEDICAL PRACTICE IN AUSTRALIA.

The General Secretary reported that he had, as usual, received several inquiries from medical practitioners overseas in regard to conditions of practice in Australia. He had in each instance sent a suitable reply.

GUATEMALAN MEDICAL FEDERATION.

The General Secretary reported that he had received a letter from the Guatemalan Medical Federation, asking for the names of the principal mycologists in Australia. A suitable reply had been sent.

THE ASIAN CONFEDERATION OF MEDICAL ASSOCIATIONS AND THE PHILIPPINE MEDICAL ASSOCIATION.

The General Secretary reported that he had received a letter from the President of the Asian Confederation of Medical Associations, extending an invitation to the Federal Council to send delegates to the Asian Confederation of Medical Associations, to be held in Manila from April 17 to 21, 1956. He had also received a letter from the Philippine Medical Association, extending an invitation to the Federal Council to send representatives to the forty-ninth annual meeting of the association, to be held in Manila from April 17 to 21, 1956. The President said that he thought the Federal Council should pay serious attention to these invitations. After discussion it was decided that if possible Dr. L. R. Mallen, who was going to attend a meeting of the Council of the World Medical Association at Cologne, Germany, at the end of April, should spend a few days in Manila on his way to Cologne, and act as representative of the Federal Council. Dr. Mallen explained that his great difficulty in attending the meeting of the World Medical Association was the finding of a *locum tenens*. He had hopes of being able to secure a *locum tenens* through the cooperation of the Director of Medical Services of South Australia. The Federal Council resolved that if a *locum tenens* could be found, it would pay the expenses of the *locum tenens* for the days covering Dr. Mallen's stay in Manila.

INDIAN MEDICAL ASSOCIATION.

The General Secretary reported that he had received an invitation from the Indian Medical Association to the Federal Council to send representatives to the thirty-second All-India Medical Conference, to be held at Jaipur, India, from December 26 to 28, 1955. He said that he had sent the correspondence on to the Branches, in the hope that possibly some member might be able to undertake the journey.

THE AUSTRIAN MEDICAL CHAMBER.

The General Secretary said that he had received from the Austrian Medical Chamber a *questionnaire* in regard to medical practice in Australia. He had done his best to supply the desired information.

THE WEST GERMAN MEDICAL ASSOCIATION.

The General Secretary said that he had received a request from the West German Medical Association, inquiring for a copy of THE MEDICAL JOURNAL OF AUSTRALIA of November 5, 1955. The journal had been sent.

FAIRVIEW PARK HOSPITAL, CLEVELAND, OHIO.

The General Secretary said that he had received a communication from the Fairview Park Hospital, Cleveland, Ohio, United States of America, advising that the hospital was providing training positions for many medical graduates of foreign schools. The General Secretary reported that he had written to the Fairview Park Hospital, and had also sent the information on to Branch Councils.

THE AMERICAN DIETETIC ASSOCIATION.

The General Secretary reported that he had received a notice from the American Dietetic Association, to the effect that the second International Congress on Dietetics would be held in Rome on September 14, 1956. The information had been sent to the Branches.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

The General Secretary reported that Dr. H. C. Colville, the President, had extended the congratulations of the Federal Council to the Medical Society of the County of New York, which was celebrating the one hundred and fiftieth anniversary of its foundation.

AMERICAN COLLEGE OF CHEST PHYSICIANS.

The General Secretary said that he had received a letter from the American College of Chest Physicians, advising that the fourth International Congress on Diseases of the Chest was to be held at Cologne, Germany, on December 19 to 23, 1956.

AUSTRALASIAN MEDICAL CONGRESS (BRITISH MEDICAL ASSOCIATION).

Ninth Session.

The General Secretary reported that he had received from the Executive Committee of the Ninth Session of Congress a copy of the minutes of the meeting of November 4, 1955. An interim report on the Ninth Session was also received from the Honorary General Secretary. In this report it was stated that the total number of members of Congress was 1514. The number of members from New South Wales was 1078, the number from Victoria was 228, the number from Queensland was 90, the number from South Australia was 56, the number from Western Australia was 25, and the number from Tasmania was 29; eight members came from New Zealand. To the total of 1514 had to be added 52 honorary members, and 37 who were made honorary members in view of the fact that they were attending the Asian-Pacific Tuberculosis Conference. It was also stated that the amount of profit from the Congress would be something in the neighbourhood of £8000, and the possible investment of some of this money was discussed. The Federal Council authorized the Honorary Treasurer, Dr. W. F. Simmons, to invest the funds of Congress in trustee securities.

Tenth Session.

The venue of the Tenth Session of the Australasian Medical Congress (British Medical Association) was discussed at the Federal Council's meeting in August, 1955, and consideration had been deferred until the next meeting. The Federal Council had before it the copy of a letter

addressed to the President by Dr. W. J. P. Hutchison, Chairman of Council of the New Zealand Branch of the Association. In this letter it was pointed out that the New Zealand Branch would hold its biennial conferences at Wellington in 1957 and at Christchurch in 1959. If an Australasian Medical Congress was to be held in New Zealand in 1958, it was doubtful whether the New Zealand Branch could in addition conduct its own 1957 and 1959 biennial conferences with success, and these might have to be cancelled. From the letter written to New Zealand by the General Secretary of the Federal Council, the New Zealand Branch gathered that the Federal Council did not wish the Congress to be run conjointly with any other function. An alternative would be to hold the New Zealand biennial conferences as planned in 1957 and 1959, and to hold the Tenth Session of Congress as an additional function in 1958. If this was done, Auckland might be a suitable venue. Dr. Hutchison's letter was dated January 18, 1956. The General Secretary reported that he had received a further letter from Dr. Hutchison dated February 8, 1956. In this letter it was stated that the Parent Body of the Association had accepted the invitation of the New Zealand Branch to hold the 1961 annual meeting of the Association at Auckland. The Parent Body had stated that it would welcome a large gathering combined with the Australasian Medical Congress. This possibility was discussed by the Federal Council, and the suggestion was made that the proposed session of the Australasian Medical Congress for 1961 might be dropped as such, and that effort should be concentrated on making the annual meeting of the whole Association at Auckland in 1961 a success. The Federal Council decided that it would cooperate with the New Zealand Branch in the holding of the annual meeting at Auckland in 1961, but that what form the cooperation would take would be decided at a later date. A discussion then took place on the venue for the 1958 Congress. Tasmania had expressed a desire to hold the session at Hobart, and the Tasmanian representatives explained that the whole question centred round the provision of accommodation for a congress. It was resolved that the Tasmanian Branch should be invited to organize the Tenth Session of the Australasian Medical Congress (British Medical Association).

Australasian Medical Publishing Company, Limited.

The General Secretary reported that he had received a letter from the directors of the Australasian Medical Publishing Company, Limited, regarding the supply of The Medical Journal of Australia to members. The directors advised that there would be no alteration in the present per-capita payment of £1, of which 10s. was for the supply of The Medical Journal of Australia, the remainder being credited to the Building Fund Trust Account.

Medical Planning.

At an early stage in its meeting the Federal Council had a conference with Dr. Donald Cameron, O.B.E., the new Minister for Health of the Commonwealth. A general discussion took place on various aspects of the National Health Service and Pensioner Medical Service. The President thanked the Minister for meeting the Federal Council and for giving its members an opportunity to discuss with him the different aspects of the services.

National Health Service.

On the motion of Dr. W. F. Simmons, seconded by Dr. Robert Southby and supported by Dr. H. R. R. Grieve, the Federal Council adopted the following motion in regard to the retirement of the Right Honourable Sir Earle Page, Minister for Health:

> That the Federal Council at its meeting in Hobart on 27th February, 1956, desires to record its appreciation of the services of Sir Earle Page in establishing a national health service for the people of Australia which has won the admiration of other nations and the people of Australia and the cooperation of the practising profession.

National Health Act, 1955.

The General Secretary said that he had received from the Director-General of Health copies of the *National Health Act*, 1955, which had been passed by the Commonwealth Parliament on October 27, 1955.

The Federal Council also had before it the copy of a letter sent to the Branches in reference to the amendment of the *National Health Act*. The General Secretary also drew attention to a copy of the Minister's second reading speech on the National Health Bill.

Pensioner Medical Service.

The Federal Council discussed the future of the Pensioner Medical Service. The General Secretary said that he had forwarded to the Minister a copy of the resolutions adopted by the Federal Council at its meeting on August 17, 1955. The Federal Council had before it the Minister's reply to that letter. In the course of his reply the Minister stated that the Council had not passed any resolution concerning the suggestion he had made in his letter of June 3, 1955, to the late President, that a uniform monthly ceiling should be placed on the number of attendances on any one patient for which claims might be made under the Pensioner Medical Service. The Minister suggested for the Federal Council's consideration that such a limit should apply on a three-monthly basis. If this new proposal was favourably received by the Council, the Council's views on what would be a reasonable number of attendances for which the Commonwealth should accept responsibility for a three-month period would be appreciated. Provision would, of course, be made for payment by the Commonwealth for a greater number of attendances in special cases, when it was established that they were necessary for the proper care of the patient. The Minister went on to say that two of the resolutions indicated the Council's desire that the rates for attendance by medical practitioners should be raised by 25%, and that automatically these fees should be subject to review every two years. The Minister agreed in regard to the automatic review. He thought, however, that the present was a most inappropriate time for making such a large increase in the concessional fees to doctors. This increase would immediately become public when the necessary regulations were promulgated as required by the *National Health Act*. In regard to the concessional fee paid before the special arrangement made in the previous year in consideration of the large expected influx of the pensioners under the 1954 means test which did not eventuate, the Minister thought that the sudden rise was much more than 25%. This action on the Pensioner Medical Service would seem to the Government to be out of line with the Council's resolution in regard to the stabilization of fees. Such a contemporaneous action in regard to the two services would almost seem a direct encouragement to practitioners and Branch Councils to raise their fees in so far as medical benefits were concerned. Such a contradiction of policy might easily have a very unfavourable effect on the public mind. In his reply to this letter the President had stated that a uniform three-monthly ceiling to be placed on the number of attendances on any one pensioner had not been specifically considered by the Federal Council. However, the President pointed out that the Federal Council at its recent meeting had not approved of the recommendation made to the Minister by the Medical Services Committee of Inquiry, that where attendance on a pensioner for the one illness continued beyond a certain period, payment to the doctor for attendance after that period would be at a weekly rate. The principle was the same as that underlying the Minister's suggestion, and the President felt sure that such a suggestion would be equally unacceptable to the Federal Council. However, the matter could be referred to the Branches in due course. In regard to rates of payment, the President stated that an arrangement for the payment at the rates of 11s. for a domiciliary visit and 9s. for a surgery consultation had been agreed upon for a period of three years from January 1, 1952. The review of this arrangement, due on December 31, 1954, had been postponed in view of the proposal that the Pensioner Medical Service should be changed to an insurance system, which was considered during 1954. An interim payment with rates of 12s and 10s. as suggested by the Prime Minister had been accepted by the Federal Council for a year ending on October 31, 1955. As the proposals for altering the form of the Pensioner Medical Service had fallen through, it now became necessary to enter into a new arrangement on the rates to be paid from November 1, 1955. The date of the President's letter just referred to was September 20, 1955. On October 21, 1955, the President had written to the Minister again. He referred to the expiration of the agreement between the Federal Government and the Association, which was due to occur on October 31, 1955. The Federal Council therefore requested the Federal Government to implement a new agreement, and asked that the basis of such agreement should be: (*a*) that the service should continue to be accepted in its present form and for a scope of service to be mutually agreed upon; (*b*) that the free medical service would be limited in future to pensioners who could satisfy the 1953 means test with regard to permissible income over the pension; (*c*) that the fees for providing free medical service to pensioners should be for a surgery consultation 12s. 6d., for a domiciliary visit 15s.; (*d*) that the new arrangement should be subject to review at any time by

mutual consent, in any case in two years after its inception. The Minister in his reply to this letter stated that the Government immediately agreed to sub-paragraphs (*a*), (*b*) and (*d*). It was, however, impracticable at the present time to deal with the question of fees as requested in sub-paragraph (*c*) of the letter. He therefore suggested that the question of any alteration of these fees should be deferred for consideration until some appropriate time in the new year. In reply to this letter the President on October 26, 1955, wrote that as the Federal Council had been ready and willing to proceed with the matter immediately, he respectfully submitted that the agreement arrived at in the new year in respect of rates for attendance and period of review should be retrospective to November 1, 1955. He asked for the Government's views on this submission. The Minister replied to the President on November 2, 1955, and in the course of his letter stated that the difficulties in agreeing at that stage to make a future adjustment of fees retrospective were practically insurmountable. Apart from the accounting problems involved in the individual handling of a huge number of vouchers, it would be necessary to promulgate a regulation under the *National Health Act* to authorize retrospective payments. Both as a matter of policy and because of the practical difficulties, it was impossible for him to agree to make retrospective payments as proposed. He assured the President that whatever government was returned, the department and the Government would immediately take steps to resume negotiations and to settle the question. When this correspondence had been reviewed, the Federal Council adopted a resolution supporting the action taken by the President in his letters to the Minister for Health on the future of the Pensioner Medical Service. It also decided to reiterate its previous request for an increase in rates payable under the Pensioner Medical Service to 12s. 6d. for surgery consultations and 15s. for visits. It also decided to reiterate its request to the Minister for Health that payment of increased rates should be made retrospective as from November 1, 1955.

The representatives of the Tasmanian Branch drew attention to the statements which had been published in the Press regarding over-visiting and other iniquities in connexion with the Pensioner Medical Service. They stated that the transgressions came from only a small percentage of the medical profession, and that a false impression was being created among the general members of the community. After discussion the Federal Council resolved to make representations to the Minister for Health, that he should make a public statement to the Press which would exonerate the great majority of the profession from the accusations recently levelled at doctors, and thus restore the faith of the patients in the integrity of their medical advisers.

Scope of Service.—At its meeting on August 17, 1955, the Federal Council discussed the scope of service under the Pensioner Medical Service. At that meeting it was decided that the scope of service should be as formerly defined in the regulations under the *National Health Act* with certain specific exclusions. It was resolved that the first exclusion should be after-treatment for an operation requiring a local or general anæsthetic, where a doctor making a claim or a partner had performed the operation. The Federal Council thought that the second exclusion should be the treatment of all fractures excepting those of toes, fingers, ribs and the Colles's fracture. The General Secretary drew the attention of the Federal Council to a letter from the Minister for Health, in which he suggested that the scope of the Pensioner Medical Service should be defined by item numbers in the first schedule of the *National Health Act*. The matter had been referred to the Branches and replies had been received. The Queensland Branch expressed the opinion that the Minister for Health should be provided with the precise scope of service for the Pensioner Medical Service defined in index numbers in the Commonwealth Medical Scheme. The New South Wales Branch reaffirmed its previous decisions in regard to the scope of the Pensioner Medical Service. The previous recommendation of the New South Wales Branch Council was that the scope of the Pensioner Medical Service should be defined as including attendance at surgery and/or home, and also a list of items of services in the first schedule to the *National Health Act* subject to the proviso that such items of service did not require a general anæsthetic. The list of items numbered 25. The Victorian Branch had replied that it approved of the proposal of the Minister that the scope of the Pensioner Medical Service should be determined in accordance with the schedule item numbers, the actual services to be included to be determined by negotiation. The main recommendation of the South Australian Branch with regard to the scope of service was that it agreed in the main with the definition of the scope as submitted by the Minister, but desired to point out the danger of including treatment of fractures without including provision for X-ray examination. The Western Australian Branch expressed the opinion that the Minister's suggestion of definition by reference to particular items of professional services listed in the first schedule to the *National Health Act* should not be agreed to. It thought that the Federal Council should reaffirm the decisions reached at the August, 1955, Council meeting, and insist on this being the basis of the services to be provided under the Pensioner Medical Service. The Tasmanian Branch expressed the opinion that the services mentioned should be limited to Part I, Item 1, of the First Schedule of the Act. After discussion the Federal Council approved the proposal of the Minister for Health that the scope of the Pensioner Medical Service should be determined in accordance with the item schedule numbers, the actual services to be included to be determined by negotiation. The resolutions of the Federal Council adopted at its meeting in August, 1955, which have already been quoted, were rescinded. It was also resolved that the definition of the scope of the Pensioner Medical Service as submitted by the Minister for Health in his letter of December 16, 1955, should be approved with the following exclusions, namely, Items 117 (5) (Bennett's fracture), 117 (7) (fractured navicular or carpal scaphoid), 117 (11) (fractured wrist), and the terminal paragraph, namely, "other than after-treatment rendered by a medical practitioner for an operation requiring a local or general anæsthetic where the operation was performed by that medical practitioner or by his partner or assistant", and that it be recommended to the Minister that Item 1 (1) should be deemed to include the treatment of a patient who had undergone a surgical operation from the time that he returned to his home from a hospital.

Mileage.—The General Secretary referred to a letter which he had received from the Minister for Health in regard to mileage. The Minister stated that mileage would be considered in conjunction with other aspects of the Pensioner Medical Service at a later date. The Federal Council resolved that it should reiterate its previous requests in regard to mileage.

Statistics.—The Federal Council had before it a statement on the statistics of the Pensioner Medical Service for the quarter ended September 30, 1955. The number of participating doctors for the whole of Australia was 4621, and claims for payment had been passed numbering 9823. The number of medical services given in the surgery was 693,197, and the number of domiciliary visits was 716,927, making a total of 1,410,124. The amount paid for medical services was £775,727, and the amount paid for mileage was £10,192, making a total of £785,919. The total number of pensioners and dependants enrolled was 645,632. Much more information was included in the statistical statement. The figures for each State were given. The figures for several other quarters were included for comparative purposes.

General Pharmaceutical Benefits.

The Federal Council discussed the use of restricted drugs. The General Secretary said that he had had a statement from the Director-General of Health to the effect that 52% of antibiotics were prescribed by 11% of doctors, and that if the 11% prescribed drugs in the same fashion as the remaining 89%, there would be an annual saving of £2,000,000 in the antibiotic drug bill. The Federal Council had before it a letter forwarded by the South Australian Branch. The letter had been written by Dr. A. C. McEachern in connexion with a circular letter bearing the date November 21, 1955, received by medical practitioners from the Commonwealth Department of Health, and concerning the misuse of restricted antibiotics. Dr. McEachern wrote that it might well be that the position was even worse than outlined in the circular, and that the law was being disregarded not only by the vast majority of practitioners in Australia, but also by the great teaching hospitals. If the problem was of this magnitude, then surely the individual disciplinary approach suggested in the circular should be replaced by a consideration of the whole subject in a wider fashion and at a higher level. The present schedule had served its purpose in a very successful initiation of the Pharmaceutical Benefits Scheme. However, experience had since accumulated, and it was apparent that the profession as a whole, and also the hospitals, were finding the schedule of restricted drugs unworkable. If it was assumed that the purpose of the schedule was to provide expensive life-saving drugs with suitable, adequate and just safeguards, then it could be seen to be breaking down in several respects, quite apart from careless and culpable abuse. In the first place, it was impracticable to treat patients by regulations. Secondly, the list was never really medically complete or administratively explicit. In the third place, any such list would rapidly become out of date, and this list in certain

important respects was several years out of date. There was no mention of sensitivity tests in the schedule, and it was obvious that the needs of such dangerous disorders as acute hæmatogenous osteomyelitis and thecal whitlow, to quote two examples, had never been brought up to date. The circular referred to by Dr. McEachern was as follows:

> The attention of all Medical Practitioners is drawn to the following urgent matter.
>
> Investigations at present undertaken into the prescribing by individual Doctors of those antibiotics (particularly Terramycin, Aureomycin, Chloromycetin and Tetracycline) which can be prescribed as Pharmaceutical Benefits only for certain specified diseases, show an alarming over-use in many cases with an almost certain gross disregard of the schedule of diseases for which they are available.
>
> Under the National Health legislation should a Committee of Inquiry report that any drug was prescribed unnecessarily the doctor writing the prescription can be forced to repay the cost to the Commonwealth of that prescription. As most of the prescriptions for the particular drug mentioned involve a cost of 77/6 it can be realised that offending doctors could become liable for the repayment of large sums of money.
>
> Cases have already been referred to the Committee in this State and undoubtedly it will be necessary to refer many more as the investigation proceeds.
>
> There is nothing to prevent any doctor prescribing these drugs for diseases outside the schedule provided the patient pays for them, but inquiries have shown that in practically every case they are prescribed as a Pharmaceutical Benefit and it is inconceivable that the very limited list of diseases for which they are thus available are so prevalent as to warrant the huge amounts of these drugs prescribed.
>
> The writing of the words "Restricted Drug" on a prescription means that the doctor is certifying that the drug mentioned is being prescribed for one of the scheduled diseases for which it is available as a benefit and a breach of the law is committed when such a certification is wrongly used.
>
> (Sgd.) F. B. McCann,
> Commonwealth Director of Health,
> South Australia.
>
> November 21, 1955.

After discussion it was resolved that the action to be taken should be that proposed by the New South Wales Branch—namely, that the matter should be referred to the Antibiotics Committee of the National Health and Medical Research Council at an early date, with a view to its making recommendations in regard to the revision of the second schedule under the Pharmaceutical Benefits Regulations, and that the matter contained in the report of the Special Committee of the South Australian Branch should be referred to the Branches for consideration.

The Federal Council had before it a prescription form which had been submitted by the Minister for Health for use in the prescribing of restricted drugs. This form had a space for the doctor's name and address and for the patient's name and address. The medical practitioner was required to sign a statement as follows: "I certify that the above-written pharmaceutical benefit has been ordered by me for the treatment of a disease specified in relation to the pharmaceutical benefit in the second schedule of the National Health (Pharmaceutical Benefits) Regulations." The date was to be appended. After discussion in which it was stated that the profession would not take kindly to the imposition of more clerical work, it was decided that the prescription form proposed by the Minister for the prescribing of restricted antibiotics should be referred to the Branches for their consideration.

The Federal Council discussed the payment for the supply of medical benefits of medical practitioners who had to do their own dispensing. During the discussion it was made abundantly clear that medical practitioners who had to undertake dispensing were labouring under an injustice. They had to carry large stocks of drugs just as a well-established pharmacist had to do. The dispensing took a good deal of time, and also necessitated the use of packages, labels and so on. The Federal Council resolved that further representations should be made to the Minister for Health in regard to the payment of medical practitioners acting as approved chemists in respect of the supply of tablets and injectables.

Medical Benefits.

Schedule of Benefits.—The General Secretary reported that he had received from the Director-General of Health a copy of the amendments to the *National Health Act*, 1955.

The Federal Council resolved that the Minister for Health should be asked to give serious consideration to means of enlarging the list of medical benefits, so as to provide a specific benefit for services which are not listed in the schedule of benefits.

The General Secretary also read a resolution received from the Tasmanian Branch that the general practitioner group of that Branch had recommended to the Branch Council that the basis of ante-natal and post-natal charges set out under the *National Health Act* was inadequate for the proper care of the patient, and that the fee should be based on 12 ante-natal visits and one post-natal visit. The recommendation had been sent on to the department.

Reference was also made to a request by the Ophthalmological Society of Australia (British Medical Association), asking the President of the Federal Council to lead a deputation to the Minister for Health, for the purpose of making representations in regard to amending the definition of professional attendance. A deputation had met the Minister on October 18, 1955. This matter had been before the Federal Council at its meeting in August, 1955, when the General Secretary reminded the Federal Council that, according to Item 1 (1) of the schedule, professional attendance was referred to as "attendance, including attendance at rooms, surgery, home or hospital, but not including an attendance at which there was made an examination of a patient's sight for the purpose of correcting errors of refraction by the prescription of spectacle lenses". The Ophthalmological Society had explained that, according to the present position, many patients who consulted ophthalmologists received no medical benefit under the scheme for the provision of benefits. It had been pointed out to the Minister that if the addition of the word "solely" was made, the prescription would apply only when the patient consulted an ophthalmologist solely for the purpose of correction of errors of refraction. The suggestion had not been accepted by the Minister. The General Secretary said that he had received a letter from the Ophthalmological Society of Australia seeking advice in regard to a further approach to the Minister for Health. It was resolved that the Minister should be approached again, and that he be urged to insert the word "solely" after the word "sight" after the definition of professional attendance.

At several previous meetings of the Federal Council the definition of a specialist was discussed. This was asked for in the first instance by the Minister for Health, in order that payment of medical benefits under the Act might be facilitated. Readers are referred to The Medical Journal of Australia of March 26, 1955, at page 477. Here will be found an account of the discussion held by the Federal Council. In the issue of September 24, 1955, a further account of a discussion held at the August, 1955, meeting of the Federal Council will be found. At that meeting the General Secretary set before the Council the replies of the Branches to a letter from the Minister. The Federal Council resolved at that time to seek advice in regard to the legal responsibility involved in the drawing up of a list of specialists for the purposes of the *National Health Act*. The General Secretary drew the attention of members of the Council to a legal opinion by Mr. B. B. Riley. Mr. Riley stated that he had been asked to advise generally on the Council's position if it accepted the Minister's invitation to draw him up a list of specialists, on the duty it owed to practitioners generally in this connexion, and on what liability it would incur to a practitioner who claimed to be a specialist and whose name was omitted from the list. Mr. Riley said that the Council's proposal that it should supply a list of specialists from which the name of any practising specialist would be deliberately omitted because, for example, it was held by the Council that the practitioner's claim to be a specialist was ill-founded was, in his opinion, based upon a misconception of the requirements of the Act. There was nothing in the Act that the class of "specialists" referred to comprised only those of whose qualifications or claims to be specialists the Council approved, or that there was any other qualification for inclusion in that class than the fact of practising a specialty. Reference was made in Mr. Riley's instructions to practitioners being specialists "within the meaning of the Association's requirements". Whatever they might be, these requirements were quite irrelevant to the case, and in Mr. Riley's opinion the Act would not be properly administered if they were in any way imported into the meaning of the word "specialist" in the schedule. In Mr. Riley's opinion, the Minister should not ask the Council

to supply a list of specialists, the compiling of which would call for the exercise by the Council of any judgement as to the fitness or qualification of any person to practise as a specialist, and if the Council was asked to supply any such list, it should refuse to do so. The Council's judgement on that subject played no part in the administration of the Act, and its duties to practitioners generally was to submit no list other than a list which recorded practitioners who were in fact practising their specialties. Any departure from this course by the omission of names could lay the Council open to possible actions for defamation or the making of injurious false statements. The only course which the Council could adopt which would be effective for the purpose of the Act, and which would be completely safe for the Council, would be that it should act as a channel of communication between practitioners and the Minister. Thus it should send a circular to each practitioner, informing him that it had been asked to compile for the purpose of the Act a list of specialists practising their specialties within the meaning of the first schedule, and asking him to state on an enclosed form whether he practised a specialty, and if so, what was his specialty, and any other relevant particulars, and informing him that the information that he gave would be supplied to the Minister for the purpose of administration of the Act. The Council should forward to the Minister the information received, taking care to make it clear that what was forwarded purported to be no more than a list of the specialists who had replied to the circular, and to contain no more than the information supplied by them. In conclusion, Mr. Riley emphasized the statement that if the Minister asked the Council to supply a list of only those practitioners who in its opinion were proper persons to be regarded as specialists, he would be seeking information which he did not need, and should not pay attention to in administering the Act. The Council, if it supplied such a list, would at its own risk be supplying information which it had no need to supply and which it should not supply. After discussion the Federal Council resolved that it was prepared, after consultation with the Minister for Health, to supply to the Commonwealth Government by the methods indicated by Council a list of specialists.

Commonwealth Health Department Circulars.—At the instance of the Queensland Branch a discussion took place in regard to MB circular number 12. The Queensland Branch pointed out that according to MB circular number 12 a pathological or radiological service by a lay person at the request of a doctor was treated as being eligible for medical benefits. The Queensland Branch urged the Federal Council to ask the Department of Health to limit the payment of the benefit for radiological services by a dentist to those situations in which no dental radiologist was available. In his covering letter to the Branches, the General Secretary pointed out that paragraph 9 of MB circular number 12 made it quite clear that a benefit was payable only when the person performing the service on behalf of a medical practitioner was an employee of that practitioner and the fee for the service was payable to the practitioner. In discussion the opinion was expressed that in the circumstances referred to by the Queensland Branch the dentist who performed a radiological service at the request of a medical practitioner was in effect the employee of the practitioner. It was resolved that no action should be taken.

Reference was made to MB circular number 18, which had been received from the Commonwealth Department of Health. This circular had to do with amendments to the *National Health Act*, 1953. The schedule stated that certain items had been removed from the schedule, as they would be covered by Item 1 (1). Two other items had been deleted, Item 119 (the treatment of simple fractures) and Item 554 (removal of dentigerous cyst). Exception was taken by the New South Wales Branch to the removal of dentigerous cyst from the schedule. It was explained that the reason for the removal of the item was that the operation was regarded as a dental service. After discussion the Council resolved to make a protest to the Minister for Health against the deletion of Item 554 from the schedule of medical benefits, and that he should be advised that if it was the intention to remove the item "removal of dentigerous cyst" from the schedule, the Council was of the opinion that Item 554 required definition so as to include the various forms of odontoma.

Medical Benefits Organizations Not Registered Under the National Health Act.—A letter was received from the Western Australian Branch, requesting that action be taken at a Federal level to ensure that all non-approved benefit societies were closely supervised by the Commonwealth Government. The circumstances which led to the making of this request were explained, and the Federal Council resolved to approach the Minister for Health on the matter.

Stabilization of Fees.—At the meeting of the Federal Council in August, 1955, the subject of the stabilization of fees was discussed. At that meeting reference was made to a resolution adopted by the Federal Council in February, 1953, to the effect that, in view of all the available information bearing on the question, the Federal Council was concerned with the need for the stabilization of medical fees, especially in view of the fact that the success of the National Health Service would depend on such stabilization. It requested the Branch Council to give serious thought to means of achieving this purpose. The New South Wales Branch had written to the Federal Council, asking that the Council should review its decision in regard to the stabilization of fees. On that occasion the President, in introducing the subject, said that the Federal Council could not compel anyone to charge certain fees. Fees were not charged by direction. The Federal Council could merely give advice. He said that the government benefit was fixed, and that any variation that had to be made in the refund would have to be made by the medical benefits society. The President thought that a reasonable approach would be such as was made in regard to other occupations in the community. Machinery might be created by the fixing of a basic figure, and Branch Councils might then be asked to indicate what variations they thought should be made from it. After discussion on that occasion the Federal Council resolved that it should reaffirm its resolution of February, 1953. It also resolved that the Federal Council should request Branch Councils to consider the stabilization of fees, and to approach the matter with the following principles in view: (i) That the base line for the State be determined as a starting point for subsequent adjustment. (ii) That adjustments should be based on the known variations in the cost of living, the value of the pound, the incidence of taxation, and their impact on conditions of practice. (iii) That adjustments on a haphazard basis should be discouraged. (iv) That efforts should be made to maintain a relationship between medical fees and the benefits received by the public under the National Health Service, which would ensure that the popularity of the National Health Service would be maintained. The Federal Council also resolved that Branch Councils should be advised to inform all local associations and specialist groups that no decisions by them concerning modifications of fees should be implemented until the Branch Council had been informed of the matter and given its approval. The General Secretary reported that he had received from the Victorian Branch a letter dated November 25, 1955, in which it was stated that a report had been prepared for the Branch by a group of expert economists, after they had analysed the information obtained by *questionnaire* from members in general practice and from other sources. The report had been considered by the executive of the Victorian Branch Council, which had made recommendations to the Branch Council. These had been adopted at a meeting on November 23, 1955. The recommendation was as follows:

> That following consideration of the report by the economists, Council recommends to members of the Branch that the following standard fees in general practice should be charged from January 1, 1956:
>
> (i) Fee for surgery consultation 17s. 6d.
>
> (ii) Fee for home visit 22s. 6d.
>
> (iii) Fee for emergency attendance out of hours: after 8 p.m. and before 8 a.m., during week-ends (after noon on Saturdays) and on public holidays, surgery consultation 25s., home visit 30s.

It was explained that the figures were really a compromise between two opposing views. The Western Australian Branch wished to have action by the Victorian Branch delayed. The Tasmanian Branch thought that the views expressed by the Victorian economists did not give a true picture of the money values since the second World War. For this reason it thought that the report should be reconsidered. The Queensland Branch deplored the action of the Victorian Branch, and thought that the whole question should be reviewed by the Federal Council. The New South Wales Branch reported that it had laid down a basic fee for general practice: consultations £1, domiciliary visits £1 5s., visits at night, at week-ends and on holidays £1 10s. Dr. A. E. Lee said that he thought that the Victorian Branch had defeated the object of the Federal Council. The President pointed out that the Victorian Branch had acted in accordance with the request of the Federal Council. Dr. Lee said that it was his impression that at the meeting in August

members of the Council did not think that they were passing a resolution reversing the first motion, but that they were asking the Branches to make an investigation that would maintain stability and report again to the next meeting of the Council. The Victorian Branch should be congratulated on its assiduous collection of facts. The question was whether the Branch had been right in acting on the facts. There were two possible courses of action. If costs went up, one chased them. The other solution was not to do that, but to work harder for the same or for less fees. Such advice was sterile with the general body of workers, but it was uniquely applicable to members of the medical profession. The profession could not avoid working harder. The medical profession had taken up the costs. The increasing costs in medicine had been absorbed by the fact that doctors worked harder. That was the solution, and there was no excuse for a rise in fees. Dr. Lee moved a motion to the effect that the Federal Council, having recommended the fixation of fees of medical practitioners in Australia, reaffirm its previous resolution about the necessity for continued stabilization of fees in private practice. Dr. C. W. Anderson, in seconding the motion, said that he supported Dr. Lee's view as to what had been intended at the meeting in August, 1955. He had gone back to Western Australia and asked several general practitioners whether there was any justification for a rise in fees. They had replied in the negative, and had pointed out that at present a fee was being received for every patient seen, that there were less bad debts than previously, that payment was being made for each person and not for each family, that a charge was made for all visits, and that a charge was being made for minor ailments. The raising of fees in Victoria would, Dr. Anderson thought, have a profound influence on fees in other States. He recalled that Dr. D. E. Copping had expressed the view that the question of the increase in fees should be looked at from the point of view of the average income of a doctor. The President asked whether there was anything in the resolutions of the August meeting to say that a report should have been brought back to the Federal Council. Dr. C. O. F. Rieger said that he thought the correct basis for the determination of fees was the average earnings of a medical practitioner. There were many imponderables in the practice of medicine, and included in these were the skill, knowledge and personality of the practitioner. Medical practitioners did not belong to a union, nor even, he was glad to say, to a guild. Dr. Rieger wondered whether the year 1955 would go down in history as marking the "glorious zenith" of the medical profession in Australia. Medical practitioners earned enough, and Dr. Rieger thought that they should be satisfied with what they had and set a general example to the community. Dr. Robert Southby supported the Victorian action, and expressed the opinion that the Branch had not increased fees, but had stabilized them. Dr. J. G. Johnson expressed the opinion that the fees had been stabilized on a fair basis. In a matter of this sort it was necessary to determine what was a fair average income, and then what was a fair average day's work. The General Secretary said that it had never been intended that the fees laid down in 1953 should be the same fees for ever. In regard to a basic rate, the local associations had thought that the Council should give a lead. The motion was put to the meeting and negatived.

Medical Service Committees of Inquiry.

The General Secretary said that he had received from the Director-General of Health certain amendments to the *National Health Act*, 1955.

The General Secretary reported that a letter had been received from the Director-General of Health, asking advice in regard to the filling of the vacancy on the Medical Service Committee of Inquiry caused by the death of Sir Archibald Collins. The Federal Council appointed Dr. A. J. Murray to the vacancy.

A letter had been received from the Minister for Health, advising of the appointment of Dr. M. O. Kent Hughes as a member of the Committee of Inquiry for the State of Victoria, in the place of Dr. H. C. Colville, who had resigned.

The General Secretary read a letter which he had received from the Editor of The Medical Journal of Australia regarding the findings of the committees of inquiry. The Editor referred to a leading article published in the journal on November 12, 1955, and to a reply from the Minister for Health. The Editor was concerned with wider publicity in connexion with the findings of the Medical Committees of Inquiry. He asked the opinion of the Federal Council on a *questionnaire* which he wished to send to chairmen of these committees. The General Secretary said that he had referred the letter to the Branches and had received replies. The Queensland Branch approved the proposal, as did the Victorian Branch. The Western Australian Branch gave its approval, provided that there were no constitutional difficulties. The South Australian Branch was opposed to the idea, holding that it was a matter for the Federal Council. The New South Wales Branch thought that a discussion should take place between the Federal Council and the Minister. The Tasmanian Branch agreed in principle with the proposal. The General Secretary asked whether the committees would give the information desired; he did not think they were empowered to do so. Dr. H. R. R. Grieve said that they could not supply the information desired, as they were *quasi*-judicial bodies. After consultation, the Editor was asked to discuss the matter with the Director-General of Health.

Further reference was made to travelling expenses of medical practitioners appearing before the Medical Services Committees of Inquiry. This was one of the questions discussed at the meeting of the Federal Council in August, 1955. On that occasion the Federal Council resolved that the Commonwealth Government should be asked to defray the travelling expenses of medical practitioners who appeared before Medical Services Committees of Inquiry when recommended by the committee. No reply had been received from the Minister for Health, but it was pointed out that the matter had been discussed with him and a reply was awaited.

At its meeting in August, 1955, the Federal Council had appointed Dr. A. W. Morrow as representative of the Council on the Federal Medico-Pharmaceutical Liaison Committee, to fill the vacancy caused by the death of Sir Archibald Collins. The General Secretary said that he had received a reply from Dr. Morrow, accepting the appointment.

Advisory Committees.

The General Secretary said that the payment of medical members of advisory committees had been discussed with the Minister and that a reply was awaited.

Vaccination Against Poliomyelitis.

The New South Wales Branch forwarded to the Federal Council a copy of correspondence that had taken place between the Council and the New South Wales Department of Public Health. The letter from the New South Wales Department was dated January 17, 1956. Readers are reminded that the subject was discussed in a leading article in this journal in the issue of February 18, 1956. In his letter the New South Wales Director-General had stated that it had been determined that the allocation of vaccine to New South Wales should be 162,000 doses per month. As the vaccine was costly to prepare, it was essential that no waste should occur. New South Wales would therefore be asked to make use of the full allocation of vaccine each month. The vaccine could be kept in bulk at the Commonwealth Serum Laboratories at 0° to 2° C. for several weeks without loss of potency. When placed in ampoules it remained potent at that temperature for approximately one month or a little longer. At room temperature its potency fell to half within forty-eight hours. The problems of distribution from a central laboratory in Sydney were being worked out by the staff of the New South Wales Department. It was evident that the full cooperation of the medical profession in practice would be required to ensure that 162,000 doses of vaccine per month were used. The New South Wales Branch had resolved that it would cooperate with the department if the vaccine was declared to be safe, but that it would take no responsibility with regard to the safety of the vaccine. The General Secretary said that he had received from the Director-General of Health, Canberra, a letter dated February 7, 1956, stating, *inter alia*, that arrangements had been made with the Hospital Board of Management of Fairfield Hospital to have Fairfield Hospital Laboratories serve as the independent authority for the final safety check before issue of the vaccine. The Fairfield Laboratories would test by tissue culture a sample of the final vaccine in bulk and a random sampling of ampoules at the time of bottling. These external checks were in addition to routine Commonwealth Serum Laboratory checks by tissue culture and animal inoculation at all states throughout the preparation of the vaccine. The President referred to the responsibility of the Federal Council to its members. He asked what the duty of the Federal Council was. He said that any idea that the Federal Council should comment on methods was presumptuous. The Federal Council was, however, as a result of the assurances it had received, in a position to say that the safeguards to be instituted and the personnel were in its opinion the best safeguards and the best people which could be imagined.

The duty of members of the Association was thus clear. They were being asked: "Should I have my child vaccinated?" "What shall I do?" The practitioner was not in a position to say, and this responsibility should not be placed on him. The attitude of the doctor should be the attitude adopted by the Council. The only thing to tell people was that the best people were making the best possible tests. Dr. A. J. Murray agreed with this view, and suggested that Dr. Robert Southby and Dr. Colville should draw up a statement for the Press on this subject. Later in the meeting the President placed before the Federal Council a statement which he and Dr. Southby had prepared. This statement was published in the issue of March 10, 1956. It was as follows:

> The following statement was issued by the Federal Council of the British Medical Association in Australia at its recent meeting in Hobart to State Branch Councils for circulation to members.
>
> The Commonwealth Health Department, with the cooperation of the State Health Departments, is arranging a plan of immunization against poliomyelitis.
>
> Doctors are receiving inquiries from parents concerning the advisability of consenting to this immunization for their children.
>
> The Federal Council of the British Medical Association in Australia strongly supports the principle of this type of vaccination as it offers protection against the paralytic effects of infection by the poliomyelitis virus.
>
> The Federal Minister for Health (Dr. Donald Cameron) has assured the Federal Council of the meticulous care which is being taken in the preparation and checking of the vaccine in the process of its manufacture. Provisions have also been made for a very stringent second check by a strong independent committee of experts to ensure the absolute safety of the product before it is released for use.
>
> For these reasons the Federal Council recommends to the members of the profession throughout the Commonwealth that they enthusiastically support the forthcoming campaign.

PUBLIC RELATIONS.

Public Relations Officer.

The General Secretary said that the South Australian Branch had asked the Federal Council to consider the advisability of appointing a public relations officer. The matter had been referred to the Branches. The Western Australian Branch supported the idea. The Tasmanian Branch was also in favour of it. The Victorian Branch thought that a public relations officer was not required at the present time. The Queensland Branch thought that the methods at present in use were adequate. The New South Wales Branch had sent a copy of a memorandum on public relations which had been prepared by the Medical Secretary and the Director of the Department of Medical Sociology and Research of the Branch. This memorandum made it clear that the functioning of a public relations department was a very expensive business, and that it was surrounded by difficulty. Dr. Robert Southby pointed out that it was necessary to realize the difference between public relations and Press relations. Public relations was a much bigger subject than Press relations. Dr. C. W. Anderson thought that public relations at present were in a very poor state. He laid stress on the expense involved in such a matter, and quoted one instance in Western Australia where a Press relations officer was to be employed for a certain matter for a period of six months, and the fee was to be £50 per month. In the discussion the General Secretary reminded members of the Council that the best public relations officer in medicine was the medical practitioner himself. If he was willing to give time to the matter, he could do more than all the paid public relations officers. The Federal Council adopted a resolution stating that it had considered the advisability of establishing a public relations department, but that for financial reasons it realized that the present time was not opportune and deferred the matter to a later date.

Publicity Committee.

It was resolved that the Publicity Committee of the Federal Council should consist of the following: Dr. W. F. Simmons, Dr. H. R. R. Grieve, Dr. A. E. Lee, Dr. L. R. Mallen, Dr. A. J. Murray and Dr. C. H. Dickson.

SPECIAL GROUPS.

A letter was received from Dr. L. T. Wedlick, the honorary secretary of the Australian Association of Physical Medicine. The letter was dated September 1, 1955, and asked for the approval of the Federal Council for a change of name. The association wished in future to be known as the Australian Association of Physical Medicine and Rehabilitation. Dr. Wedlick pointed out that within the present association were several members who were intimately concerned with rehabilitation. He added that physical medicine was intimately associated with rehabilitation, and formed an integral part of the latter project. He also said that the proposed title would be in conformity with overseas associations such as the American Congress of Physical Medicine and Rehabilitation. The letter had been sent to the Branches and general approval had been given. The Federal Council resolved that the new name, Australian Association of Physical Medicine and Rehabilitation, should be approved.

The General Secretary reported that he had received from the Ophthalmological Society of Australia (British Medical Association) a letter in which the society asked for advice and for the opinion of the Federal Council. It was stated that many general practitioners referred their patients complaining of visual defects to an optometrist. It was realized, of course, the letter stated, that they were quite within their rights to do this; but it did seem that some step should be taken if possible to alter this tendency, as it was not considered in the best interests of the public. This letter had been referred to the Branches, and replies had been received. The Queensland Branch stated that it considered it not to be in the best interests of the community for practitioners to refer patients to optometrists where the service of an ophthalmic surgeon was available. The New South Wales Branch supported the request of the Ophthalmological Society of Australia. The Victorian Branch also supported the Ophthalmological Society. The South Australian Branch stated that at a recent meeting the views expressed in the correspondence were supported, and an appropriate notice would be included in the next monthly circular, advising members that wherever possible patients should be referred to ophthalmologists in preference to optometrists. The Western Australian Branch stated that in Western Australia there was considerable delay in obtaining appointments with ophthalmologists. Instances had been quoted at the Branch Council meeting of delays of many months before patients could be seen, and it was felt that if all patients, including those for whom only a refraction test was involved, were referred to ophthalmologists, the volume of referrals would be such that the delay already involved would possibly increase from months to years. At the same time the Branch Council agreed that ethically all patients complaining of visual defects should be referred to ophthalmologists. It thought that the Ophthalmological Society might give consideration to the question of employing optometrists at their consulting rooms for the skilled measurement of refraction. The Branch thought that this practice would be comparable to the present situation in other branches of the profession, where radiographers and pathology technicians were employed to provide technical services. The Tasmanian Branch expressed the opinion that the referral of patients with visual defects to optometrists was not in the best interests of the public, but it could not see that any recommendation in the matter could be enforced. The Federal Council resolved that the matter should be referred to the Branches with the recommendation that they communicate with members, indicating to them the advisability of doctors referring their patients to ophthalmologists in preference to optometrists.

The General Secretary reported that he had received from the Oto-Laryngological Society of Australia a list of the new office-bearers.

AUSTRALIAN POST-GRADUATE FEDERATION IN MEDICINE.

The General Secretary reported that he had received a notice of a general meeting of the Australian Post-Graduate Federation in Medicine which was to be held at Melbourne on March 15, 1956. He reported also that inquiries had been made by the Honorary Director of the Australian Post-Graduate Federation in Medicine, Dr. W. W. S. Johnston, inquiring into the Second World Conference on Medical Education, which was to be held in 1959. The General Secretary had told Dr. Johnston that representatives would be sent to the meeting.

FEDERAL COUNCIL MEDICAL MONOGRAPH FUND.

The General Secretary presented a statement on the position of the Federal Council Medical Monograph Fund as at December 31, 1955. The amount standing to the credit of the fund was £2397. This was represented by Commonwealth Treasury Bonds at cost, £1995 (face value £2220), and a sum of £402 in the current account at the Commercial Banking Company of Sydney, Limited. In reply to a question by one of the members of the Federal Council, the

General Secretary stated that no monograph had yet been accepted for publication. The opinion was expressed that perhaps the members of the Branches were not aware of the existence of the fund and of its purpose. It was resolved that the Branches should be reminded of the fund's existence.

Dr. R. H. Macdonald was appointed a trustee of the Medical Monograph Fund in the place of the late Sir Archibald Collins.

British Medical Association.

The General Secretary reported that a letter had been received from the London office of the Association, asking what was the policy of the Federal Council in regard to rules for broadcasting by members of the Association. Dr. H. R. R. Grieve pointed out that television was coming, and that the question of the rules to be observed by members of the Association taking part in television should be referred to the Branches. If medical practitioners were not prepared to undertake television, they would not go on the air. Dr. Grieve said that he himself was in favour of some limited form of permission from the Branches for televising. He moved that the views of the Branches should be sought in regard to the ethical rules that should be adopted in relation to the appearance of members of the profession in television programmes. The motion was seconded by Dr. W. F. Simmons and carried.

Reference was made to the annual meeting of the Association, to be held at Brighton, England, from July 5 to 13, 1956. It was pointed out that each State Branch had three representatives with the exception of Tasmania, which had two. Dr. H. W. Horn, who was one of the Queensland representatives to the annual meeting, was appointed the representative of the Federal Council to attend the meeting. The General Secretary would take up with the Parent Body the appointment of a representative of the Federal Council.

A letter was received from the Parent Body inquiring in regard to the reasons for the Australian Naval, Military and Air Force authorities' trying to recruit British doctors to serve in the Australian forces. After discussion the Federal Council resolved that a committee should be set up to prepare a plan for improving the conditions of service of medical officers in the services, and that the appropriate Ministers be subsequently advised of the plan.

The National Health and Medical Research Council.

Reference was made to the fortieth session of the National Health and Medical Research Council, which was held in Sydney on November 24 and 25, 1955. Members of the Federal Council had all been sent a copy of the report by Dr. W. F. Simmons of the fortieth session. Dr. Simmons was thanked for his report.

A letter was received from the New South Wales Branch requesting that the Federal Council should impress upon the Commonwealth Government the need for increasing substantially its grant for medical research. In discussing this matter, Dr. W. F. Simmons pointed out that the National Health and Medical Research Council had applied for a grant of £182,000 and had received £140,000. Dr. Simmons mentioned in detail some of the projects for which more money was urgently needed. It was resolved that the Federal Council should make another approach to the Federal Government, and impress upon them the need for an increased grant for medical research.

The General Secretary said that he had received from Dr. W. F. Simmons two copies of a document sent by Dr. A. J. Metcalfe, chairman of the National Health and Medical Research Council, and entitled "The Present Position of Crash Helmet Research: Department of Scientific and Industrial Research, Road Research Laboratory, England".

Commonwealth Department of Health.

Pethidine.

Further reference was made to the increasing use of pethidine by the medical profession, a subject discussed at the Federal Council meeting in August, 1955. At that meeting the Federal Council decided to give official sponsorship to the setting up of a joint committee with the Commonwealth Department of Health in regard to the prescribing of pethidine. The appointment of representatives of the Federal Council was left in the hands of the executive officers. The executive officers had subsequently appointed to the committee Dr. A. W. Morrow, Dr. A. J. Murray and Dr. Byron Stanton. Reference was also made by the General Secretary to some correspondence with the Commonwealth Health Department, to copies of letters received by the Victorian Branch from the honorary secretary of the executive medical staff of the Royal Women's Hospital, Melbourne, and to an editorial on the subject in The Medical Journal of Australia of December 10, 1955. Dr. A. J. Murray referred to talks which he had had with Dr. C. E. Cook. He expressed the opinion that a snap check was not satisfactory. It was true that there were two suburbs in Sydney, one in Melbourne and one in Adelaide, where pethidine was used in excessive amounts. Longer periods should be taken over an investigation of this kind. Inquiry was also necessary into whether the drug was taken in ampoule or tablet form.

Heroin.

Reference was made to the banning of heroin. It will be remembered that the Federal Council had agreed some time previously to the banning of heroin. It took this step as the result of the importunity of the World Medical Association, and the decision was made as a result of an inquiry by special committees set up for the purpose in Australia. It was pointed out that much discussion had taken place in England on the reversal of the ban, and the same suggestion was being made in Australia. Sir Darcy Cowan, of Adelaide, was one of the advocates for the lifting of the ban on heroin. He had written to the General Secretary of the Federal Council, and had referred him to a letter which he had sent to the South Australian Branch. In this letter he said that he was concerned that the members of the various Branches had had little or no opportunity to express their opinions. The opinion of State Branch Councils was all very well; but it was the opinion of the members that was so important. If the opinion of a majority of the members of the Association favoured a ban, then Sir Darcy Cowan had nothing further to say. If, on the other hand, it was opposed to the ban, then he thought that the Federal Council should do something about it. He wished to see each State Branch send out a *questionnaire* on the lines that he had suggested in his letter to the South Australian Branch Council. In his letter to the South Australian Branch Council, Sir Darcy Cowan had suggested that the opinion of members of the Branch could be easily obtained by issuing a *questionnaire* with the monthly circular with two questions: (i) Are you in favour of a complete ban on the use of heroin in Australia? (ii) How many cases of heroin addiction have you seen in the past ten years? The Federal Council resolved to refer the matter to the Branches.

Therapeutic Substances Advisory Committee.

Reference was made to the Therapeutic Substances Advisory Committee set up in connexion with the *Therapeutic Substances Act*, 1953. The General Secretary said that he had received a letter from the Director-General of Health requesting that a panel of three names of members of the Association should be submitted, in order that the Minister might select and appoint a representative of the Association as a member of the Therapeutic Substances Advisory Committee. The three names chosen by the Federal Council for submission to the Director-General of Health were Dr. A. W. Morrow, Dr. Byron Stanton and Dr. R. Southby.

World Medical Association.

The General Secretary reported that he had received from the Secretary-General of the World Medical Association copies of the minutes of the ninth general assembly held in Vienna on September 20 to 26, 1955. He had also received a letter from Dr. H. D. Stewart, one of the Federal Council's observers at the Vienna assembly, expressing appreciation at being appointed observer and giving some impressions of the assembly.

The General Secretary said that he had received from Dr. L. R. Mallen a report of the twenty-fourth and twenty-fifth council meetings of the World Medical Association. He had also received from the Secretary-General copies of the minutes of these meetings.

A letter had been received from the Secretary-General, asking whether any items were thought to be necessary for placing on the agenda of the twenty-sixth council meeting, to be held at Cologne in April, 1956.

Members of the Federal Council had before them copies of the Secretary-General's letters numbers 16, 17, 18, 19 and 20.

A letter was received from the Secretary-General, advising that the twelve principles of social security had been reaffirmed by the ninth general assembly of the World Medical Association. The statement in regard to these twelve principles is as follows:

Whenever medical care is provided as part of social security, the following principles should govern its provisions:

(i) Freedom of choice of physician by the patient. Liberty of physician to choose patient except in cases of urgency or humanitarianism.

(ii) No intervention of third party between physician and patient.

(iii) Where medical service is to be submitted to control, this control should be exercised by physicians.

(iv) Freedom of choice of hospital by the patient.

(v) Freedom of the physician to choose the location and type of his practice.

(vi) No restriction on medication or mode of treatment by physician except in case of abuse.

(vii) Appropriate representation of medical profession in every official body dealing with medical care.

(viii) It is not in the public interest that physicians should be full-time salaried servants of the Government or social security body.

(ix) Remuneration of medical services ought not to depend directly on the financial condition of the insurance organization.

(x) Any social security or insurance plan must be open to the participation of any licensed physician, and no physician should be compelled to participate if he does not wish to do so.

(xi) Compulsory health insurance plans should cover only those persons who are unable to make their own arrangements for medical care.

(xii) There shall be no exploitation of the physician, the physician's services or the public by any person or organization.

The Secretary-General had sent a report of the General Assembly on Social Security. The General Secretary said that he had forwarded to the Branches and to members of the Federal Council a copy of an extract of the minutes of this assembly.

The General Secretary said that he had received from the Secretary-General a report to the ninth General Assembly of social security developments in Austria. Dr. L. R. Mallen said that conditions of medical practice in Austria were appalling.

The Secretary-General had sent a copy of a document on social security in the field of medical care by Dr. Dag Knutson, chief physician of the University Polyclinic for Internal Disease, Stockholm.

The General Secretary said that he had received from the Secretary-General of the World Medical Association a *questionnaire* on ways and means of promoting world peace. This matter had been referred to the Branches.

The General Secretary reported that he had received from the New South Wales Branch Supporting Committee the sum of £797. The General Secretary said that he had received from the Secretary-General a *questionnaire* on the legal requirements for the validity of medical credentials in a central repository. This *questionnaire* had been sent to the Branches, and the matter was left in the hands of the General Secretary.

The Secretary-General had sent a *questionnaire* on the advisability of establishing a roster of speakers to visit the various parts of the world. The matter had been referred to the Branches and to the Federal Council. It was resolved that the matter should be left in the hands of the General Secretary.

Among other *questionnaires* received by the General Secretary was one on an educational exchange programme for doctors, one on current information for the secretariat, one in regard to international meetings for listing in the calendar of the *World Medical Journal*, and one on national officers and official journals or bulletins. These *questionnaires* had been completed by the General Secretary.

The General Secretary stated also that he had received from the Secretary-General a memorandum on an International Congress on Medical Ethics and International Medical Law.

The General Secretary stated that he had received an amendment made by the Ninth General Assembly to the International Code of Medical Ethics. The first sentence being amended will read: "Attain the highest standards of professional conduct towards both the individual and society."

The General Secretary had received documents on the complete autonomy of medical organizations and on an educational exchange programme for doctors. In regard to the latter, Dr. L. R. Mallen said that the exchange was already going on, but that Australia was too far away to participate in it.

The General Secretary reported that he had again been reelected secretary for Australasia.

The General Secretary referred to the report on medical education issued by the World Medical Association after the conference on medical education held in London. After the report was issued, committees had been appinted in all the States to comment on the report of the conference. Reports had been received from the States, and it was intended that these should be collated so that one document covering the whole of Australia would be produced. At this stage the President said that questions concerning a committee on medical education had been thought of before the World Medical Association had dealt with the matter. Among those who had dealt with it in Australia were the Editor of THE MEDICAL JOURNAL OF AUSTRALIA and Dr. Ewen Downie, of Melbourne. These people considered that there was some room for improvement in the medical schools in Australia. Dr. Downie had made a report and had sent a copy to Dr. Colville. He held that there should be some attempt at correlation in the four medical schools in Australia, and that some permanent committee should be appointed and that its findings could give rise to a common policy. One requirement would be that some indication would be necessary that the four schools would cooperate and abide by the findings of the committee; in other words, that the decision of an overriding body should be accepted. This would constitute a full-time job for the committee. Some provision to pay these people would have to be made. It was a matter which the President thought the members of the Federal Council might think about in the next six months.

The annual subscription of the Australian Branches to the World Medical Association was renewed, and this was one Swiss franc per member. The General Secretary said that he had received from the Treasurer of the World Medical Association a letter of appreciation for the way in which the Australian Branches had given support to the World Medical Association.

Reference was made to the tenth general assembly of the World Medical Association, which was to be held at Havana, Cuba, on October 9 to 15, 1956. Delegates, alternate delegates and observers could be appointed. The Federal Council resolved that an invitation should be extended to Dr. K. H. Hallam to be a delegate of the Federal Council at the tenth general assembly of the World Medical Association, to be held at Havana, Cuba, in October, 1956. The General Secretary suggested that members of the Federal Council or of Branch Councils or prominent members of the Association who were likely to be in America at the time of the meeting might consider the possibility of going to Havana in some capacity on behalf of the Federal Council.

REPATRIATION DEPARTMENT.

The General Secretary read a letter from the chairman of the Repatriation Commission dated January 16, 1956, in which the chairman stated that approval had been given for the scheme for medical treatment of war widows and other eligible dependants to be placed on a fee-for-service basis, and that the same fee be paid as for ex-servicemen. The chairman sent a précis of the scheme. The Federal Council gave its general approval of the scheme, but recommended that it should be clearly indicated on the voucher form that only one voucher should be sent for each attendance.

The Federal Council resolved to make urgent and strong representations to the chairman of the Repatriation Commission that the rate for attendance on widows, widowed mothers and orphans of deceased ex-servicemen should be 15s. per consultation and 17s. 6d. per visit, and £1 1s. for intravenous therapy.

The General Secretary read a letter from the chairman of the Repatriation Commission dated December 12, 1955, in which were set out a list of fees authorized by the Department of the Treasury. The fees were payable as from January 1, 1956, as follows: a consultant specialist (leaders in the profession), sessions at Repatriation General Hospitals and so forth, £5 5s. for the first hour, £1 1s. for each additional half-hour; visiting specialists of senior status, £4 4s. for the first hour and £1 1s. for each additional half-hour; visiting specialists, junior status, £3 3s. for first visit and £2 2s. at subsequent visit; visit by specialist to patient's home, £5 5s.; local medical officers' service, 12s. 6d. for a surgery consultation or visit to home or hospital; Assessment Appeal Tribunal, sitting fees £4 4s. for first hour, £1 1s. for each additional half-hour. This letter had been

referred to the Branches. The Queensland Branch was not satisfied with a fee of 12s. 6d. for local medical officers' service. The New South Wales Branch thought that the fee was inadequate, and that the Federal Council should press for a fee of 15s. per consultation and 17s. 6d. per visit. The Tasmanian and South Australian Branches thought that the fee of 12s. 6d. was inadequate. The Western Australian Branch thought that the fee for local medical officer service was inadequate. The Council also resolved to make strong representation to the chairman of the Repatriation Commission that the rates of payment of local medical officers should be 15s. for a surgery consultation and 17s. 6d. for a visit. It decided to impress on the chairman that there must be a differential rate between the fee for a consultation and that for a visit.

At its meeting in February, 1955, the Federal Council discussed the reorganization of the medical services of the repatriation hospitals (see The Medical Journal of Australia, March 26, 1955, page 480). The Council resolved to send to the Repatriation Commission the resolutions passed at that meeting, and also to advise The Royal Australasian College of Physicians of the action taken.

Medical Inspection of Seamen.

The General Secretary reported that he had received a communication from the Department of Shipping and Transport, advising of a new scale of fees payable to medical inspectors of seamen, as follows:

> (i) Where the medical inspector is an officer or an employee of the Commonwealth—(*a*) for an examination at a time when the Mercantile Marine Office of the port is open for general business, nil; (*b*) for an examination on a Saturday, Sunday, or on a day observed in the port as a holiday in the Public Service of the Commonwealth, £2 2s.; (*c*) for examination at any other time, £1 1s.
>
> (ii) Where the medical inspector is not an officer or employee of the Commonwealth—(*a*) for an examination on a Sunday or on an afternoon on a Saturday or on a day observed in the port as a holiday in the Public Service of the Commonwealth, £2 2s.; (*b*) for an examination at any other time, £1 1s.; (*c*) for each mile or part of a mile necessarily travelled by the medical inspector, 2s. 6d.

These fees were noted.

Rehabilitation Services.

The Federal Council discussed the rehabilitation services of the Commonwealth. Dr. C. W. Anderson said that he thought the services were not doing what they should be doing. A professional man was on tap, but he was not on top. Money was being spent in increasing amounts, and it was not reaching the persons for whom it was intended. The opinion was expressed that rehabilitation centres were becoming a dumping-ground for delinquent children. The Federal Council resolved that the Branches should be asked to furnish to the Federal Council information regarding the rehabilitation services in their State with any suggestions for their improvement.

Salaried Medical Officers.

The New South Wales Branch forwarded a letter which it had received from the honorary secretary of the Australian Federation of Medical Women, drawing attention to the inequality of pay between men and women in some branches of the Public Service. The Federation pointed out in its letter that medical women in the Public Service, having equal qualifications and doing similar work, were forced to accept a lower rate of pay than that of their male colleagues. The General Secretary said that the matter had been referred to the Branches. The Branches generally supported the contention of the Australian Federation of Medical Women. The Tasmanian Branch pointed out that salaries were governed by an award, and this created a difficulty. Dr. H. R. R. Grieve said that the reason quoted for the inequality of pay was the Harvester award of 1907, according to which women received five-sevenths of the amount of pay offered to men. It was pointed out that some years ago Dr. H. R. R. Grieve and Dr. J. G. Hunter had attended a meeting of the Public Service Board in New South Wales, to address the Board on behalf of women medical practitioners. They had not been allowed to speak; the Harvester award had been quoted, and there the matter ended. Dr. W. F. Simmons pointed out that there was no distinction made in New South Wales between the salaries of male and female resident medical officers. After further discussion the Federal Council resolved to inform the Australian Federation of Medical Women that it agreed with its submission that there should be no inequality of pay as between the male and female members of the medical profession having equal qualifications and doing similar work. It also resolved to inform the directors of the Australasian Medical Publishing Company, Limited, that in the opinion of the Federal Council advertisements submitted for insertion in The Medical Journal of Australia which specified a differential rate of pay for male and female doctors should be refused.

The Western Australian Branch sent to the Federal Council a letter dealing with the employment of medical practitioners by lay organizations. The Branch stated that the matter had arisen as a result of the appointment of a practitioner as an employee of a hospital. The member submitted the proposed agreement to the Branch Council. It had been pointed out to the member concerned and discussed on his behalf with the hospital that the Association objected to the employment on a salary of any medical practitioner by lay organizations where specific fees were charged for the doctor's services to individual patients. It was understood that the agreement was to be amended to provide that any fees charged by the hospital belonged to the practitioner, that the hospital was purely acting as agent for the practitioner in the matter, and that the practitioner would pay to the hospital a sum of money for the use of facilities provided by the hospital and to cover the cost of administrative and clerical work entailed in collecting the fees. The Western Australian Branch asked the Federal Council to affirm the following principles: (i) That no lay person or organization (including hospitals) shall employ a doctor on a salary where medical fees are charged for his services. (ii) That fees collected by institutions for medical services be recognized as the property of the medical practitioner. (iii) That any charge made to the doctor for the use of space, technical apparatus, secretarial assistance *et cetera* be a matter for negotiation between the two parties. The matter had been referred to the Branches. South Australia, Queensland, Victoria and Tasmania supported the view of the Western Australian Branch. The New South Wales Branch thought that the principles should apply to part-time appointments only. The Federal Council adopted a resolution set out in the terms of the Western Australian Branch's submission.

Part-Time Appointment of Commonwealth Medical Officers.

A letter was received from the Victorian Branch regarding the appointment as part-time medical officer of a medical practitioner who had purchased the practice of another at a town in Victoria. The Victorian Branch pointed out that the following information had been ascertained from official sources:

> Legislation granting preference to ex-servicemen, which was due to expire in 1952 and was extended until 1955, has again been extended for a further three years until 1958. There is no statutory obligation or custom requiring that vacancies for part-time temporary appointments to the Commonwealth Public Service should be advertised. It has been learned that when a vacancy occurs for the appointment of a Commonwealth medical officer (part time), the Public Service Board writes to the local postmaster, asking him to supply the names of the doctors in practice in the area, with an indication of whom he would consider to be the most suitable appointee.

The Federal Council resolved to request the Commonwealth Public Service Board to ensure that all applications for medical officers in the Public Service part time be called by advertisement.

London House.

The General Secretary reported that he had received from the chairman of London House, the Right Honourable the Viscount Portal of Hungerford, a letter expressing sincere thanks to members subscribing to the London House Fund. A letter had been received from Brigadier E. C. Pepper, asking for suggestions in regard to the proposed vellum, to be used on the door of the room provided in order to commemorate the gift of the Federal Council. The President reported that a suitable design had been chosen.

Australian Road Safety Council.

A communication was received from the Australian Road Safety Council in regard to the voluntary use of chemical tests for intoxication. The resolutions adopted by the National Congress of the Australian Road Safety Council in November, 1954, were forwarded, and the Federal Council's endorsement of the scientific principles involved in them was sought. After discussion the Federal Council resolved

to endorse the scientific principles involved, and also decided to inform the Australian Road Safety Council that it was of the opinion that arrangements should be made for increased facilities for the carrying out of blood tests for alcohol.

AUSTRALIAN SOCIAL WELFARE COUNCIL.

A letter was received from the chairman of the provisional executive of the Australian Social Welfare Council, forwarding a copy of the provisional constitution, of the names of the provisional executive and of the list of organizations which had indicated their desire to become foundation members, and extending an invitation to the Federal Council to become associated with the movement. The matter had been sent to the Branches. The New South Wales Branch was in favour of the Federal Council's becoming a foundation member; the Victorian Branch was opposed to this view. The Queensland Branch supported the idea in principle; the South Australian Branch did not think it was advisable for the Federal Council to join just at present. The Western Australian Branch was in favour of the Federal Council's becoming a foundation member, and pointed out that the Council should be composed of voluntary organizations only. Dr. C. W. Anderson said that he thought the matter was of great importance at the present time. The proposed council would be entirely divorced from statutory bodies. In Western Australia they had tried to form a council of voluntary bodies in such a way that the bodies would not lose their individual identities. Seventy different organizations had been sent circulars, and 45 of them had replied. There was no political motive in the proposed council. Dr. A. J. Murray, after hearing Dr. Anderson's remarks, said that he was glad that New South Wales had agreed to join. The Federal Council, after further discussion, resolved that it would become a foundation member.

THE SUPERANNUATION OF SELF-EMPLOYED PERSONS.

At its meeting in August, 1955, the Federal Council discussed the superannuation of self-employed persons, a subject which had been mentioned on previous occasions.

The General Secretary said that since the September meeting, a reply had been received from the Acting Treasurer that the Government considered that it would not be in the best interests of the economy to give tax reductions or concessions at the present time, but the matter would be given further consideration when taxation measures again came under review.

A further letter had now been written to the Treasurer pointing out that the recommendations of the Millard Tucker Committee were subsequently adopted in the United Kingdom by the Royal Commission on Taxation and Income, which presented its report in June, 1955, and requesting that further consideration be given to the matter of superannuation for self-employed persons. It was pointed out that the relief which was requested would strongly support the Government's economic policy of reducing inflationary pressure by encouraging saving and restricting the amount of money available for immediate spending. All that was being asked was that self-employed persons should be afforded the same facilities as were already enjoyed by the great majority of taxpayers, including company directors, in respect of whom contributions to superannuation funds by both employer and employee were deductible expenses for income tax purposes.

It was believed that the costs of granting this relief would not be great, as self-employed persons represent only a very small minority of the number of taxpayers.

DEPARTMENT OF SOCIAL SERVICES.

The General Secretary said that a communication had been received from the South Australian Branch in regard to the fee for the completion of Form SR6 of the Department of Social Services. The South Australian Branch considered that the fee at present paid, namely, £1 6s. 6d. if the examination was conducted in the surgery, and £1 11s. 6d. when it was conducted at the house of the patient, *plus* mileage at the rate of 2s. 6d. per mile one way beyond two miles from the surgery, was inadequate. The Federal Council adopted a resolution expressing its opinion that the fee for the completion of Form SR6 should be £2 2s. if the examination was conducted at the doctor's surgery and £2 7s. if at the patient's home, together with mileage at the rate of 2s. 6d. per mile or part thereof one way beyond two miles.

A letter was received from the New South Wales Branch, advising that an opinion had been given to an officer of the department that the rate of payment for service for general practitioners to the Department of Social Service should be £3 3s. for the first hour and £1 1s. for each subsequent half-hour or part thereof. The Federal Council adopted a resolution embodying the views of the New South Wales Branch.

WORKERS' COMPENSATION ACTS.

The General Secretary read a letter from the South Australian Branch dealing with workers' compensation. In this letter it was pointed out that an insurance company in Adelaide intended to open a clinic in the new year for the treatment of injured workers of the company's workmen's compensation policy holders. The proposed working of the clinic was described in the letter. Since such clinics were known to exist in some of the other States, the South Australian Branch thought that the time was opportune for the Federal Council to set up a select committee to go into the question as it affected the whole profession in Australia. The Federal Council resolved that the Branches should be asked to furnish a report on the position in their respective States with regard to the establishment of clinics by insurance companies for consideration by the Federal Council at its next meeting.

BRITISH COMMONWEALTH MEDICAL CONFERENCE.

The General Secretary reported that it had been suggested that the next British Commonwealth Medical Conference should be held in London in 1957. The Federal Council formally approved of this suggestion.

THE GOLD MEDAL OF THE ASSOCIATION IN AUSTRALIA.

The Federal Council had before it a letter from the Editor of THE MEDICAL JOURNAL OF AUSTRALIA and another letter from Sir Henry Newland. The Editor recommended that the Federal Council should award the Gold Medal of the Association in Australia to Dr. John Hunter for his distinguished service to the Association and to the profession over many years. Sir Henry Newland supported this proposal in an enthusiastic letter, in which he stated that Dr. Hunter had never spared himself, and that the profession was under an enormous debt to him. The President said that he was in hearty agreement with the proposal, and commended it to the members of the Council. The proposal was adopted unanimously.

DATE AND PLACE OF THE NEXT MEETING.

The determination of the date and place of the next meeting was left in the hands of the President.

VOTES OF THANKS.

The thanks of the Federal Council were extended to the Council of the Tasmanian Branch for its hospitality, and to Dr. J. B. G. Muir and Dr. L. N. Gollan for their hospitality. The thanks of the meeting were also extended to Dr. J. G. Hunter and Miss H. Cameron for their services during the meeting. The meeting concluded with an expression of thanks to Dr. H. C. Colville, the President, for presiding.

Out of the Past.

In this column will be published from time to time extracts, taken from medical journals, newspapers, official and historical records, diaries and so on, dealing with events connected with the early medical history of Australia.

WILLIAM BALMAIN TO D'ARCY WENTWORTH.[1]

[From the Wentworth Papers.]

London,
3rd August, 1802.

Dear Wentworth,

By Mr John Savage who is appointed an additional Surgeon through the interest of your worthy and warm friend Earl Fitzwilliam, I sent you a continuation of the Morning Herald and refer you to that paper and him for all the political news of the day. Judging your market to be still fully stocked I thought it well to decline for the present any joint speculation at least until I hear from you, for from Grant's account you have as yet no peace in Israel nor do I think there is much to be expected during

[1] From the original in the Mitchell Library, Sydney.

your present King's reign. In regard to the Colony I have very good reason to believe some beneficial measures will shortly be adopted by the ministry for the better management and good government of it and I am also led to believe that with the augmentation of our numbers on the medical establishment an increase of salary to the whole will also be added so that whatever plans you may have formed I advise you by no means to think of returning to this expensive country for the present.

I remain &c.,

W. BALMAIN.

Correspondence.

UNWHOLESOME NEWSBILLS AND THE PUBLIC HEALTH.

SIR: Perhaps a somewhat late comment may be permitted on Dr. Douglas Anderson's letter, which appeared in your journal of December 24, 1955. Dr. Anderson's letter expresses the sentiments of many of us who deplore the increasing number of lurid and degrading newsbills displayed in our city streets, and who often feel nothing can be done in the face of the all-powerful Press.

As a group, the New South Wales Branch of the Australian Association of Social Workers has been concerned for some time, not only with the billboards which, as Dr. Anderson remarks, are often "pornographic" in every sense of the word, but also with certain pictures and articles appearing in the newspapers themselves.

Whilst it seems reasonable to suppose that our newspapers at present are more concerned with sales than with public morality, the remedy suggested by Dr. Anderson of forming, through the lead of our professional, scientific and religious newspapers, a voluntary Press council similar to that in England should be a more fruitful one. This would most likely take time, stimulation and drive to bring about. We hope this Council may eventuate, and that those professional and lay groups concerned will be moved to proceed along these lines.

Are there, however, other and more immediate courses of action; in fact, methods of stimulating and preparing the way for the effective formation and working of such a Council?

The New South Wales Branch of the Australian Association of Social Workers has formed a study group to consider, amongst other things, just such problems of unhealthy newspaper publicity as raised by Dr. Anderson. As an immediate attempt to arouse the indignation of the public we wonder if sustained comments on Press articles by private individuals and by groups might draw attention to the necessity of establishing such a voluntary Press Council.

Yours, etc.,

DOROTHY DAVIS,
President, Australian Association of Social Workers, New South Wales Branch.

C.o. Family Welfare Service,
Phillip Street and Martin Place,
Sydney.
March 12, 1956.

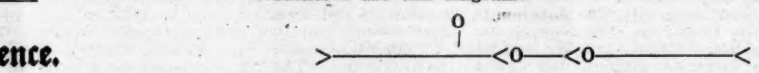
THE DEVELOPMENT OF MODERN PSYCHIATRY IN RELATION TO MEDICINE AND SURGERY.

SIR: Brevity may be the soul of wit, but it is undoubtedly open to misinterpretation. I observe, however, that Dr. McLaren (M. J. AUSTRALIA, February 4, 1956), though spinning words at length, provides an excellent opportunity for misinterpretation by omitting to define the word "materialistic", which he uses in two senses, both different from the common meaning.

While agreeing that telepathic communication could have taken place in the instance quoted by Dr. McLaren, I cannot accept the "reason" he produces for saying that "material happenings are involved". His argument amounts to *"post hoc ergo propter hoc"*.

By implication Dr. McLaren lays at the door of the basic sciences the lack of knowledge which is responsible for our inability to treat psychotics. I accept this challenge and return the gage by suggesting that the prevention of such mental illness may lie in the study of interpersonal relationships at an early age as indicated by Bowlby—a subject in which study is unimpeded by the deficiencies in the basic sciences.

I fear that, after reading Dr. Ruddock's letter (M. J. AUSTRALIA, February 4, 1956), our views differ more than he had hoped. As I see it, the crucial point is our understanding of the reflex arc. I must admit that in teaching students I use this diagram:



Such a diagram I consider to be in the same class as the equation $2H_2 + O_2 = 2H_2O$. In both cases large numbers of units are involved, and the reactions which take place are very much more complicated than their simple representation (compare Cajal's figures of branching axons).

On the receptor side let us consider Dr. Ruddock's example of an auditory stimulus, the word "Hello". The complex sound waves are transformed by the ear into a series of nerve impulses in the auditory nerve. The nerve impulses occur in a time sequence such that if recording electrodes are placed on the auditory nerve and the amplified electrical currents activate a loud speaker, the original sound can be recognized. Further the nerve fibres conducting impulses from the basal turns of the cochlea are concerned with high-frequency vibrations, and those from the apical turns with low frequencies. Thus the auditory nerve carries the sound as a "pattern" of impulses significantly arranged in the dimensions of space and time. There is not a one-to-one relay of the impulses in the nuclei of the brain stem (Hilali and Whitfield, 1953). To use Dr. Ruddock's word, the message may be "coded"; but when it reaches the primary auditory areas (two on each side) in the temporal lobe, it is still in the form of a pattern of impulses with significant temporal and spatial (that is, the position of the stimulated neurons is vital) elements. The impulses are next relayed to the auditory association areas. It is the pattern of nerve impulses which distinguishes one auditory stimulus from another (Adrian, 1946).

The link between the stimulus and animal behaviour can be illustrated by examining a conditioned reflex. In his classic experiments Pavlov gave as an example of an unconditioned reflex, the saliva produced when meat was placed in a dog's mouth. An auditory stimulus, such as ringing a bell, produced no saliva. When the giving of food had been associated for some time with the ringing bell, a secretion of saliva could now be produced by the auditory stimulus. This is spoken of as a conditioned reflex or conditioned response. The simplest explanation is that some nervous pathway has been "opened up" between the auditory area and the salivary motor muscles.

From the viewpoint of a physiologist studying animal behaviour, a change in the external environment gives rise to a response on the part of the animal which implies that the function of the nervous system is the transmission of impulses from the sensory organ to the effector organ. Turning from animals to the consideration of how the conscious mind works, in my opinion, places the discussion on a different level. The word "recognize" is used by Dr. Ruddock in connexion with the word "brain". I would say that a person recognized and not the brain.

At this level of investigation studies have been made on visual acuity. It appears that a change in luminosity confined to the area of one foveal cone can be recognized by a human subject as a small dot. One such retinal element, however, has direct pathways to about one hundred neurons in the visual cortex. The appearance of a small dot such as that described would rarely be a significant change of human environment. To recognize a simple letter thousands of neurons would be involved, and to recognize a complex auditory stimulus such as "hello" the number of neurons involved could well be of the order of 100,000. Indeed, it has been argued that the "activity of literally millions of neurones" is involved in the recall of any memory (Eccles, 1952).

The "all or nothing" quality of the nerve impulse is in conformity with the all or none law, "that excitable tissues when stimulated respond by a maximal activity or none at all". That it applies to single nerve fibres has been generally believed since about 1912, and I must refer Dr. Ruddock to any reputable physiological text-book for further details.

The criticisms contained in this letter are aimed at the details of Dr. Ruddock's exposition, not at his main thesis of the correlation of psychiatric and neurological data (compare George, 1955). I have every sympathy with Dr. Ruddock in his endeavour to be precise. Unfortunately our precise knowledge of the nervous system is that it is extremely complex.

Yours, etc.,

Department of Physiology, R. COLLIN.
The University of Western Australia,
Perth.
February 24, 1956.

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SIR: As an itinerant psychiatrist, I follow the Australian scene with much interest. The "impressed neurons" of the Stawell Prize recalled the neuronic face lift given by Professor J. C. Eccles to "free will". Sage psychiatrists of the past clung to useful total concepts, and were wary of "neurologizing". Dr. Alex. Sinclair's mention of the limitations of psychiatry struck a pleasant and familiar note.

In icebound Europe one feels nostalgia for "the long slow wash of Australasian seas". But there are times when the psychiatric news engenders sentiments akin to the line, beloved of the Sydney *Bulletin*: "We will all be ruined, said Hanrahan, before the year is out." For the dilettante aspects of psychiatry will never be of much use to the profession.

The impact of time and experience has not lessened my belief that the endogenous psychoses and the epilepsies are intimately related. The genius of Freud lies with the psychopathology of everyday life, and not with the well-defined mental disorders. In the realms of psychotherapy, short-term procedures of the goal-orientated type are the best value the specialty can offer.

In terms of the journal, my Odyssey began with your discussions on Christian healing and has reached the lectures on hypnosis. As Mauriac knows, Christians have not mastered the urge to hate and defame, much less the ability to heal. What a delight to the late S. F. McDonald would have been Dr. Meares's use of the term "meaningful interpretation". One hopes that meaningless interpretations are taboo. Yet, in questions of fact, psychiatry could learn much from the English law, and might well abandon "what somebody says about someone else". Objectivity in psychiatry might be harder to attain than in surgery, but it is about time that the leaders in the specialty diverted their energies towards it.

Yours, etc.,

Leiden, BARRY MULVANY.
Holland,
February 16, 1956.

TOPICAL HYDROCORTISONE THERAPY: A CLINICAL EVALUATION.

SIR: In the article "Topical *Hydrocortisone Therapy: A* Clinical Evaluation", published under our names in the journal, February 25, 1956, the word "diskoid" appears several times. Having been submitted to much good-humoured badinage by our dermatological colleagues and to avoid confusion by non-dermatologists, we wish to point out that the word "discoid" as applied to eczema was not once spelled "diskoid" in the original text submitted for publication. Further we very carefully altered this word to its correct spelling everywhere it occurred in the proof submitted to us. In spite of this the word appears as "diskoid" in the published article everywhere it is applicable. We renounce all claim to originality in the spelling of this word, and we still believe the correct word is "discoid".

Yours, etc.,

IVAN M. WARTZKI,
BRIAN R. ENTWISLE.

81 Collins Street,
Melbourne, C.1,
March 6, 1956.

THE BRITISH MEDICAL ASSOCIATION AND ITS MEMBERS.

SIR: I would like to add a few words to the discussion on the above, starting with my thanks for two different letters, each very valuable in its own way.

Criticism is perhaps more common than praise, and the latter is often overdue, so we are all in the debt of Dr. A. M. McIntosh for his pleasant appreciation of the good work done by a number of individuals whose labours over many years have perhaps not received their due meed of recognition.

On the other hand, Dr. McCulloch has written a fighting letter, and I thank him for that, too, for without such we cannot progress or get out of a rut.

For my contribution on the subject of the above title, even though I am not clear what it says (for the members are the British Medical Association, and the Council is, or should be, its executive), Dr. Alexander has drawn attention to the poor attendances at meetings and to the lack of interest in Council elections, and I can myself be a witness to the regrettably large number of members who have expressed to me both indifference and antagonism to the "B.M.A.".

One answer is still that we need a democratic method of electing Council. When the Association was small, it was well enough to vote as one body for our representatives; but now it has grown to a size where a considerable number of the candidates for the Council are not known to most of the members, and so the election can only become truly democratic when we split into small voting groups. When that is done the Council will indeed "represent a true cross-section of the profession rather than a comparative minority", and the closer contact between individual councillors and the professional groups or districts which elect them will stimulate peripheral interest and invigorate the Association.

Yours, etc.,

143 Macquarie Street, C. C. MCKELLAR.
Sydney,
March 13, 1956.

SIR: There has been some correspondence lately in the journal about the policy and performance of the British Medical Association in the past. Possibly mistakes and failures have occurred, but there can be few amongst us who feel sure that we would have done better than the devoted and able men whom we have chosen to conduct our affairs. For the future I feel that there is one way in which our Council in New South Wales can help us all and prove that it is a forward-thinking and helpful body, and that is by tackling the continuing shortage of consulting rooms in Macquarie Street. This is a matter that affects the whole profession in many ways. Not only are many doctors, practising whole or part time in rooms in the street, often in a position of great insecurity, but they are, in many cases, having to find large sums of money in order to retain or gain any rooms at all. The price of security is very great indeed. Many who were in the services have yet to find a permanent place, and many are young and necessarily without capital. They find themselves competing in a rather desperate way with each other for the limited accommodation available.

Of late there have been moves to establish new buildings in Macquarie Street. Some of these do not involve the provision of more consulting rooms, and those that do are not always above the suspicion that a handsome profit to the organizers and promoters is part of the programme. One recent project is a very expensive one. It may be a perfectly fair one, but it is clear that commercial interests play a large part in its beginnings, and it is hard to tell from the articles of association how much of the high cost for space represents the likely fair cost of the building. Is

the time not ripe for us to compete with business interests for our own corporate good? It was, in the past, possible for the British Medical Association to build and succeed with one large building. Why not another? A scheme backed by the British Medical Association would have many advantages. In the first place it would be possible for those entering it to know that, even if the cost were high, it was fair and that no great profit was being made out of a situation of shortage. It would also be possible to arrange more satisfactory finance than could be achieved by an individual or group of individuals. There are many possible ways of establishing a scheme. The present trend to unit ownership, with a large part of the finance being provided by individuals in advance for a parcel of shares attached to a specific suite, could well be implemented, and it is probable that a building could be completed with little risk, if any, of financial loss by the Association.

At present there must be many doctors who are precluded from changing their type of practice by the high risk and impossibility of finding accommodation; there are many living a hand-to-mouth existence at the whim of a landlord, and there is developing an unhealthy type of vested interest in shortage amongst those more favourably placed. The effects of the situation no doubt run right through the profession and reach to the furthest corners of the State.

We are, of course, all aware of the position, and we see the movement of commercial interests into Macquarie Street going on apace. Surely we can compete, and surely we have the foresight, brains and abilities amongst us to stand up for ourselves. Others will not do it for us, and no individual is in a position to handle the problem alone. Our new Council could hardly find a more popular and encouraging way of consuming its energies.

Yours, etc.,

233 Macquarie Street,
Sydney,
March 15, 1956.

JOHN ANTILL POCKLEY.

Post-Graduate Work.

THE POST-GRADUATE COMMITTEE IN MEDICINE IN THE UNIVERSITY OF SYDNEY.

General Revision Course, May, 1956.

THE Post-Graduate Committee in Medicine in the University of Sydney announces the following programme of the annual general revision course to be held in Sydney for two weeks beginning May 7, 1956. The main theme of the course this year will be therapeutics, and in addition the programme will, as in former years, be a comprehensive survey of modern trends in diagnosis and treatment of special value to general practitioners. Members of the course are invited to bring their own X-ray films for the X-ray conference to be held on Thursday, May 10.

Monday, May 7, in the Stawell Hall, 145 Macquarie Street, Sydney: 9.15 a.m., registration; 9.45 a.m., opening of course, Dr. A. M. McIntosh; 10 a.m., election of chairman; 10.5 a.m., review of course; 10.45 a.m., "Treatment of Cardio-Vascular Emergencies", Dr. T. M. Greenaway; 11.45 a.m., "Treatment of Renal Diseases", Dr. Ralph Reader; 2.15 p.m., symposium on "Treatment of the Anæmias", Dr. C. R. Bickerton Blackburn (chairman), Dr. Edgar F. Thomson, Dr. James M. Farrar, Dr. John Beveridge, Dr. A. W. Morrow, Dr. F. Hales Wilson, Dr. R. J. Walsh.

Tuesday, May 8, in the Stawell Hall, 145 Macquarie Street, Sydney: 9.15 a.m., symposium on "Common Skin Diseases in General Practice", Dr. J. C. Belisario (chairman); "Treatment of Pitted Scars with Rotary Steel Wire Brush (Dermabrasion)", Dr. J. C. Belisario; "Dermatological Do's and Don'ts", Dr. Richard B. Perkins; "Drug Eruptions", Dr. E. J. C. Molesworth; "Treatment of Tinea", Dr. Miles Havyatt; "Housewives' Eczema", Dr. Bruce S. Mackie; 11.25 a.m., discussion and question time; 11.45 a.m., "Management of the Common Dyspepsias", Dr. Stanley Goulston; 2.15 p.m., "Treatment of Industrial Injuries", Dr. R. T. C. Hughes; 3.45 p.m., "Medical and Surgical Management of Thyroid Disease", Dr. Keith Harrison and Dr. F. F. Rundle.

Wednesday, May 9, in the Stawell Hall, 145 Macquarie Street, Sydney: 9.15 a.m., "Prevention, Diagnosis and Treatment of Infectious Diseases", Dr. N. J. Symington; 10.45 a.m., "The Therapeutics of Diabetes", Dr. W. Wilson Ingram; 11.45 a.m., "The Management of Asthma and other Allergic Conditions", Dr. Bernard Riley; 2.15 p.m., in Kanematsu Memorial Institute of Pathology, Sydney Hospital, demonstration of clinical laboratory methods, Dr. F. C. Courtice and the staff; 8.15 p.m., in the Stawell Hall, "Infectious Hepatitis", Dr. C. R. Bickerton Blackburn.

Thursday, May 10, in the Stawell Hall, 145 Macquarie Street, Sydney: 9.15 a.m., "Common Cardiac Arrhythmias" (with electrocardiographic demonstration), Dr. Frank L. Ritchie; 10.45 a.m., X-ray conference, Dr. Selwyn Nelson (chairman), Dr. Alexander Owen, Dr. E. A. Hedberg; 11.45 a.m., symposium on anæsthesia: "Dental Anæsthesia", Dr. C. A. Sara; "Regional and Local Anæsthesia", Dr. B. E. Dwyer; "Intravenous Anæsthesia", Dr. F. Leventhal; "Spasm", Dr. L. T. Shea; 2.15 p.m., symposium on "Surgical Procedures and Emergencies", Dr. V. M. Coppleson (chairman), Dr. Douglas Miller, Dr. Frank H. Mills, Dr. Ian Monk, Dr. F. W. Niesche, Dr. C. E. Winston, Dr. Norman Wyndham.

Friday, May 11, in the Stawell Hall, 145 Macquarie Street, Sydney: 9.15 a.m., symposium on "New Drugs and Therapeutic Measures", Dr. C. G. McDonald (chairman), Dr. F. Hales Wilson, Dr. Torry Spark, Dr. Selwyn Nelson, Dr. Maurice Joseph; 2.15 p.m., question time, Dr. V. M. Coppleson (chairman), Dr. Angus Murray, Dr. Bruce Williams, Dr. A. E. McGuinness.

Saturday, May 12, at Red Cross Blood Transfusion Centre, 1 York Street, Sydney: 9.30 a.m., demonstration of blood typing and transfusion, Dr. Hugh K. Ward and Dr. R. J. Walsh.

Monday, May 14, in Lecture Theatre, Royal Alexandra Hospital for Children, Camperdown: 9.15 a.m., "Feeding Difficulties in Infancy", Dr. Kathleen Winning; 10.45 a.m., "Minor Foot and Leg Deformities"—discussed from the point of view of the physician, Dr. D. Kerr Grant; discussed from the point of view of the orthopædic surgeon, Dr. Gordon S. Colvin; 11.45 a.m., "Management of Urinary Tract Infections", Dr. D. G. Hamilton; 2 p.m., "Management of Respiratory Tract Infections", Dr. J. Beveridge; 3.15 p.m., "Management of Common Skin Diseases of Childhood", Dr. Henry Sharp.

Tuesday, May 15, in Stawell Hall, 145 Macquarie Street, Sydney: 9.15 a.m., symposium on "Gynæcological Problems in General Practice", Dr. H. K. Porter (chairman); "Aspects of Endocrine Therapy", Dr. J. W. Knox; 10 a.m., "Acute Gynæcological Emergencies", Dr. F. A. Bellingham; 11.15 a.m., "Early Diagnosis of Carcinoma of the Cervix", Dr. Graham Crawford; 12 noon, "Problems of Treatment of Prolapse", Dr. Ida B. Saunders; 2.15 p.m., symposium on "Obstetrical Problems in General Practice", Professor Bruce T. Mayes (chairman); "Post-Maturity and Fœtal Distress", Dr. T. H. Small; 2.40 p.m., "Hypotensive Drugs in Pregnancy", Dr. S. Devenish Meares; 3.30 p.m., "Induction of Labour", Dr. A. A. Moon; 3.55 p.m., "The Third Stage of Labour", Dr. R. B. C. Stevenson; 4.20 p.m., quiz session.

Wednesday, May 16, in Stawell Hall, 145 Macquarie Street, Sydney: 9.15 a.m., "Physical Medicine in General Practice", Dr. B. G. Wade; 9.35 a.m., "Rehabilitation", Dr. Naomi Wing; 11 a.m., "Some Aspects of Medico-Social Care of Old People", Miss K. Ogilvie; 12 noon, "The Place of Occupational Therapy in Physical Medicine", Miss W. M. Forsyth; 2.15 p.m., "Neurological Problems in General Practice: Parkinson's Disease", Dr. Eric Susman; 2.45 p.m., "Management of Chronic Nervous Disorders", Dr. K. B. Noad; 3.50 p.m., "The Problem of the Brachial Neuralgias", Dr. W. J. Burke; 4.20 p.m., "Investigation and Treatment of Migraine and Headache", Dr. George Selby; 8.15 p.m., in Great Hall, The University of Sydney, Ninth Annual Post-Graduate Oration, "Alfred Roberts and the Foundation of the Royal Prince Alfred Hospital", Sir Herbert Schlink, K.B.

Thursday, May 17, in the Stawell Hall, 145 Macquarie Street, Sydney: 9.15 a.m., "Psychiatric and Forensic Medicine: Psychiatry in General Practice", Dr. W. S. Dawson; 10 a.m., "Alcoholism", Dr. S. J. Minogue; 11.15 a.m., "Psychosomatic Medicine", Dr. David Ross; 11.45 a.m., "The Law and the General Practitioner", Dr. John McGeorge; 2.15 p.m., at Broughton Hall Psychiatric Clinic, Leichhardt, demonstration of psychiatric problems in general practice by the staff; 8.15 p.m., in the Stawell Hall, "Poliomyelitis and the Salk Vaccine", Professor P. M. de Burgh.

Friday, May 18, in the Stawell Hall, 145 Macquarie Street, Sydney: 9.15 a.m., "Management of Acute Retention", Dr. Keith Kirkland; 10.15 a.m., "Therapeutics of Ear, Nose and Throat in General Practice", Dr. George Halliday; 11.15 a.m., "Therapeutics of Ophthalmology in General Practice", Dr. Frank Claffy.

During the period of the course, individual instruction in the performance of post-mortem examinations under the supervision of Dr. C. E. Percy will be arranged on request.

The course will be supervised by Dr. J. W. Graham. Fees for attendance will be as follows: full course, £12 12s.; mornings or afternoons only, £6 6s.; one week only, £6 6s. Early application, enclosing remittance, should be made to the Course Secretary, The Post-Graduate Committee in Medicine, 131 Macquarie Street, Sydney. Telephones: BU 4497-8. Telegraphic address: "Postgrad Sydney." Fees and travelling expenses for this course are taxation deductions. When such deductions are claimed, "Taxation—File No. A.F./1865" should be quoted.

Week-End Courses at Hornsby and Tamworth.

The Post-Graduate Committee in Medicine in the University of Sydney announces that the following week-end courses will be held on June 9 and 10, 1956.

Hornsby.

In conjunction with the Kuring-gai Medical Association, the following course will be held at the Hornsby and District Hospital: Saturday, June 9: 2 p.m., "The Use of Endocrine Preparations in Obstetrics", Professor Bruce T. Mayes; 3.30 p.m., "The Use of Endocrine Preparations in General Medicine", Dr. A. W. Morrow. Sunday, June 10: 9.30 a.m., "The Doctor and the Law", Dr. John McGeorge; 11 a.m., "Marital Difficulties in General Practice", Dr. D. W. H. Arnott. Fee for attendance at this course will be £2 2s., and those wishing to attend are requested to notify Dr. Richard C. White, Honorary Secretary, Kuring-gai Medical Association, 196 Rowe Street, Eastwood, as soon as possible. Telephone: WL 1698.

Tamworth.

In conjunction with the Northern District Medical Association, the following course will be held at the Tamworth Base Hospital: Saturday, June 9: 2 p.m., registration; 2.30 p.m., panel discussion, "Aneuria from the Standpoint of the Uro-Genital Surgeon, the Pædiatrician and the Pathologist", Dr. H. H. Pearson, Dr. R. H. Vines, Dr. Edgar F. Thomson; 4.15 p.m., "Latest Advances in Genito-Urinary Surgery", Dr. H. H. Pearson; 5 p.m., "The Treatment of Staphylococcal Infection in Infancy", Dr. R. H. Vines. Sunday, June 10: 9.30 a.m., quiz session, Dr. H. H. Pearson, Dr. R. H. Vines, Dr. Edgar F. Thomson; 11.15 a.m., "Latest Advances in Antibiotics", Dr. Edgar F. Thomson; 12 noon, subjects by Tamworth doctors, "Common Conditions Affecting the Shoulder", Dr. J. L. Watt, "Management of Head Injuries and Indications for Operation", Dr. R. Lang, "Clinical Examination of the Back", Dr. H. R. H. Beattie; 2 p.m., "Treatment of Urinary Tract Infections", Dr. H. H. Pearson; 2.45 p.m., "Treatment of Cough in Children", Dr. R. H. Vines; 3.30 p.m., "Investigation of Blood Disorders", Dr. Edgar F. Thomson. Fee for attendance at the course will be £3 3s., and those wishing to attend are requested to notify Dr. G. Archbold, "Baranbali", Bridge and Denne Streets, West Tamworth, 4N, as soon as possible. Telephone: Tamworth B 351. Attention is drawn to the altered date of the Tamworth course.

Courses for Parts I and II of Diploma in *Dermatological Medicine.*

The Post-Graduate Committee in Medicine in the University of Sydney announces that the Part I course for the diploma in dermatological medicine will be held in Sydney from May 21 to August 10, 1956. This will be followed by the Part II course beginning on August 20, 1956, and concluding at the end of February, 1957. Arrangements can be made for candidates to attend dermatological out-patient departments at approved hospitals during these periods.

Fees for attendance are 30 guineas for the Part I course and 60 guineas for the Part II course. Further details may be obtained on application to the Course Secretary, The Post-Graduate Committee in Medicine, 131 Macquarie Street, Sydney, from whom copies of the diploma regulations may be obtained. Telephones: BU 4497-8. Telegraphic address: "Postgrad Sydney."

Royal Australasian College of Surgeons.

OPEN MEETING.

A MEETING of the Royal Australasian College of Surgeons, arranged by the New South Wales State Committee of the College, will be held at 8.15 p.m. on Thursday, April 19, 1956, in the Stawell Hall, 145 Macquarie Street, Sydney. The

DISEASES NOTIFIED IN EACH STATE AND TERRITORY OF AUSTRALIA FOR THE WEEK ENDED MARCH 24, 1956.[1]

Disease.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	Northern Territory.	Australian Capital Territory.	Australia.
Acute Rheumatism	5(2)	2(2)	3(1)	..	..	1	..	..	11
Amœbiasis	..	..	..	..	..	..	..	..	..
Ancylostomiasis	..	..	..	..	..	..	..	..	..
Anthrax	..	..	..	..	..	..	..	..	..
Bilharziasis	..	..	..	..	..	..	..	..	..
Brucellosis	2	..	..	..	..	..	..	..	2
Cholera	..	..	..	..	..	..	..	..	..
Chorea (St. Vitus)	1	..	..	..	..	..	..	..	1
Dengue	..	..	..	..	..	..	..	..	..
Diarrhœa (Infantile)	8(4)	20(18)	7(6)	..	1(1)	..	..	1	37
Diphtheria	4(3)	4(4)	..	..	3(2)	..	..	..	11
Dysentery (Bacillary)	..	2(2)	10(8)	..	2(2)	..	..	..	14
Encephalitis	2(2)	..	..	..	..	..	..	..	2
Filariasis	..	..	..	..	..	..	..	..	..
Homologous Serum Jaundice	..	..	..	..	..	..	..	..	..
Hydatid	..	..	..	..	..	2	..	..	2
Infective Hepatitis	111(66)	80(40)	..	22(12)	4(2)	..	3	1	221
Lead Poisoning	..	..	1	..	..	..	..	..	1
Leprosy	..	..	..	..	..	..	..	..	..
Leptospirosis	..	..	2	..	..	..	..	..	2
Malaria	..	..	..	..	..	..	..	..	..
Meningococcal Infection	..	1(1)	..	..	..	1(1)	..	..	2
Ophthalmia	..	..	..	..	2	..	..	..	2
Ornithosis	..	..	..	..	..	..	..	..	..
Paratyphoid	..	..	..	..	..	1(1)	..	..	1
Plague	..	..	..	..	..	..	..	..	..
Poliomyelitis	10(3)	7(4)	5(2)	3(1)	14(5)	..	..	..	39
Puerperal Fever	..	..	1	..	..	..	..	..	1
Rubella	..	16(12)	..	5(5)	3(1)	..	..	..	24
Salmonella Infection	..	..	..	1(1)	2(1)	..	..	..	3
Scarlet Fever	12(5)	15(11)	3	8(1)	..	..	..	1	39
Smallpox	..	..	..	..	..	..	..	..	..
Tetanus	..	..	1	..	1(1)	..	..	..	2
Trachoma	..	..	..	..	43	..	..	..	43
Trichinosis	..	..	..	..	..	..	..	..	..
Tuberculosis	17(10)	9(6)	7(2)	3(2)	10(8)	4(2)	..	..	50
Typhoid Fever	1	..	..	..	..	..	..	..	1
Typhus (Flea-, Mite- and Tick-borne)	..	..	..	..	..	..	..	..	..
Typhus (Louse-borne)	..	..	..	..	..	..	..	..	..
Yellow Fever	..	..	..	..	..	..	..	..	..

[1] Figures in parentheses are those for the metropolitan area.

subject will be "Hiatus Hernia" and the speakers will be Dr. F. Niesche, Dr. S. Goulston and Dr. A. Owen. The meeting is open to all medical practitioners.

Australian Medical Board Proceedings.

VICTORIA.

The following letter has been received from the Secretary of the Medical Board of Victoria:

Dear Sir,

By direction of the Medical Board of Victoria I have to bring under your notice, with a view to publicity in The Medical Journal of Australia, the concern of the Board at the giving by doctors of improper medical certificates to workers to cover absence from work.

A particular case which the Board was asked by an employer to consider recently was that of "A".

"A" was absent from work on Monday, and on Thursday, pay day, was short paid one day.

On querying the underpayment he was informed that if this absence was due to illness he would have to produce a medical certificate before he could be paid for the Monday.

The next day, Friday, he presented to his employer a medical certificate given him by Dr. "X" and carrying the previous Monday's date.

He admitted to the employer that he had not consulted Dr. "X" until the previous day, Thursday.

The doctor concerned was called before the Medical Board, and by way of explanation stated that he had been very busy when "A" called on him and had taken his word that he had been ill on the Monday. He admitted that his action in giving the certificate and in pre-dating it had been improper.

The President of the Board informed Dr. "X" that the giving of improper certificates amounted to professional misconduct sufficiently serious to cause the Board to either reprimand the doctor concerned, suspend his registration or erase his name from the Medical Register of Victoria.

After Dr. "X" had given the Board an assurance that he would exercise greater care in certifying in the future it was decided by the Board that a reprimand would fit the case.

Yours, etc.,

Medical Board of Victoria,
295 Queen Street,
Melbourne.
March 20, 1956.

John F. McCorkill,
Secretary.

QUEENSLAND.

The following have been granted limited registration as medical practitioners, pursuant to Section 20 (3) of *The Medical Acts*, 1939 to 1955, of Queensland: Charchalis, Jim, 1956 (Univ. Queensland); Gutteridge, Donald Heath, 1953 (Univ. Queensland); Parisi, Rosario, 1956 (Univ. Queensland); Reid, Raymond Richard, 1956 (Univ. Queensland); Steel, John Ross, 1956 (Univ. Queensland); Trenerry, Frederick Martyn, 1956 (Univ. Queensland); Waters, Edward Thomas, 1956 (Univ. Queensland); Watkins, Rodney Alexander, 1956 (Univ. Queensland); Meehan, William Gerard, 1956 (Univ. Queensland); Lam, Lambert Teck Choon, 1955 (Univ. Adelaide); D'Ambra, Lewis, 1955 (Univ. Sydney).

Nominations and Elections.

The undermentioned has applied for election as a member of the Victorian Branch of the British Medical Association:

Morgan, Owen Brakspear, M.B., B.S., 1951 (Univ. Adelaide), 20 Florence Avenue, Kew, Victoria.

Medical Appointments.

Dr. W. W. J. Liddle has been appointed gynæcological registrar at the Royal Adelaide Hospital.

Dr. M. R. Hone has been appointed medical registrar at the Royal Adelaide Hospital.

Dr. P. J. J. Hutton has been appointed government medical officer at Laidley, Queensland.

Deaths.

The following deaths have been announced:

Verco.—Clement Armour Verco, on March 29, 1956, at Lindfield, New South Wales.

Rodway.—Frederick Arthur Rodway, on April 1, 1956, at Nowra, New South Wales.

Diary for the Month.

April 16.—Victorian Branch, B.M.A.: Finance Subcommittee.
April 17.—New South Wales Branch, B.M.A.: Medical Politics Committee.
April 18.—Victorian Branch, B.M.A.: Branch Meeting.
April 18.—Western Australian Branch, B.M.A.: General Meeting.
April 19.—Victorian Branch, B.M.A.: Executive of Branch Council.
April 19.—New South Wales Branch, B.M.A.: Clinical Meeting.
April 21.—Victorian Branch, B.M.A.: Country Branch Meeting.

Medical Appointments: Important Notice.

Medical practitioners are requested not to apply for any appointment mentioned below without having first communicated with the Honorary Secretary of the Branch concerned, or with the Medical Secretary of the British Medical Association, Tavistock Square, London, W.C.1.

New South Wales Branch (Medical Secretary, 135 Macquarie Street, Sydney): All contract practice appointments in New South Wales.

Queensland Branch (Honorary Secretary, B.M.A. House, 225 Wickham Terrace, Brisbane, B17): Bundaberg Medical Institute. Members accepting LODGE appointments and those desiring to accept appointments to any COUNTRY HOSPITAL or position outside Australia are advised, in their own interests, to submit a copy of their Agreement to the Council before signing.

South Australian Branch (Honorary Secretary, 80 Brougham Place, North Adelaide): All contract practice appointments in South Australia.

Western Australian Branch (Honorary Secretary, 8 King's Park, West Perth): Norseman Hospital; all contract practice appointments in Western Australia. All government appointments with the exception of those of the Department of Public Health.

Editorial Notices.

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All communications should be addressed to the Editor, The Medical Journal of Australia, The Printing House, Seamer Street, Glebe, New South Wales. (Telephones: MW 2651-2-3.)

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